Croonian Lectures
ON
POINTS CONNECTED WITH DIABETES.

Delivered at the Royal College of Physicians,

BY F. W. PAVY, M.D., F.R.S.

LECTURE I.—PART I.

MR. PRESIDENT AND GENTLEMEN,—The first words I desire to utter in these lectures are words expressive of appreciation of the merits of the great physiologist which science has just lost. Although upon a certain point I have been forced to differ from Bernard's views, and it is upon this point that I shall have to engage your attention in the ensuing lectures, yet I cordially acknowledge the immense gain to physiological knowledge which has been acquired through his labours, and, as an old pupil, testify to his high qualities as a man of science. No one can deny that the earnest desire which has been so widely evinced to honour his memory has been most thoroughly merited. I feel that the moment is an inopportune one to enter into controversy with anything that he has done, but it is beyond my control to alter the position in which I am placed. The exigencies of science must stand before all personal considerations. Upon this ground, and with the assertion, which can be truly made, that no spirit of personal hostility prompts me, I claim justification for the criticism I shall have to offer, and without further words will proceed to the immediate subject of these lectures.

From time immemorial diabetes has been one of the most inscrutable of diseases. All sorts of vague notions have existed regarding the nature of the affection, and at the present day it must be said that opinions are by no means settled upon the fundamental points to be dealt with. As a close worker for the last twenty-five years, as my time has permitted, upon the subject, I have endeavoured by investigation to ascertain the true state existing, and I propose here to set forth the facts and arguments which appear to me to lead up to and justify certain definite conclusions.

First, let me give a general expression of the outward evidence manifested to us on viewing the diabetic as compared with the natural state.

In the healthy person, when starch and sugar—principles which form important elements of our food—are ingested, they become lost sight of in the system. We know that the starch is first converted into sugar, so that the two are brought to the same position before absorption occurs. The sugar thus entering the system is subsequently so acted upon as to be rendered susceptible of being applied to the requirements of the economy. The healthy system, it may be said, as the result of observation, possesses a power of assimilating and subsequently utilising the absorbed saccharine matter, and hence we do not find it escaping in an unconsumed state from the body. In diabetes, on the other hand, there exists a want of assimilative power over the saccharine principle. From this defect, the starch and sugar of the food escape, under the form of sugar, or in an unconsumed state, with the urine. Observation shows that in proportion to the starch and sugar ingested sugar is eliminated by the kidney, besides a certain amount taking its origin in another way. We have here a simple statement of fact without the introduction of any theory. In the one case the sugar disappears from view, and doubtless, as a final issue, contributes to force-production; in the other it fails to be so utilised, but passes through the system and escapes in an unconsumed state. This constitutes an essential feature of the disease, and one great object of investigation is to find out, by following the internal changes, the explanation of this result.

I believe it is only through physiology that we can expect to be able successfully to approach pathology with reference to this subject, and we must be quite sure of our ground, step by step, as we advance. We must have correct information of the natural state before we can know where we are in relation to the unnatural. As the urine gives us the outward manifestation of the effects of the disease, let us commence our investigation by ascertaining what is to be learnt regarding this secretion in relation to sugar.

Of the tests for sugar, the copper solution (Fehling's, or a modification of it, the potassio-tartrate of copper, which I am in the habit of employing myself) is the most delicate and reliable. Now, on testing a sample of urine with this liquid, the reaction may be such as to leave no doubt that sugar is present to a more or less notable extent. With another sample of urine there may be no neat and decided reaction perceptible, but a certain amount of change suggestive of the indication of a slight amount of sugar, although it must be said that this behaviour might be due to the action of lithic acid, especially if the urine were loaded with lithates, for lithic acid is an agent which has some reducing power over the oxide of copper. In another case, a sample of urine may be tested, and no sign of reaction shall be visible.

What is the true condition of these latter samples of urine? Are we to take the doubtful and negative behaviour for what they appear to represent, or may sugar be present, but fail to be revealed, or distinctly revealed, by our reagent? It is important, not, it is true, with reference to any clinical bearing, but as a physiological, and thence pathological, consideration, that we should know whether healthy urine is really free from sugar or not, and I will proceed to show what evidence is adducible upon this point.

It is known that our test agent which has been referred to does not act with the same sensitiveness in the presence of urinary matter as with a pure solution of sugar. Seegen has fully pointed this out. By this authority it has been shown that a certain minute quantity of sugar, which, when dissolved in urine, may fail to be susceptible of being satisfactorily revealed, may, when dissolved in water, be seen to give a distinct reaction. Hence we have here proof that a negative behaviour of our test is not to be taken as evidence of an entire absence of sugar.

Brücke some years back proposed a process for the separation of sugar by throwing it down in combination with oxide of lead. The process is an exceedingly satisfactory one, and by its means the sugar, to however minute an extent it may be present, can be abstracted, and thus, whatever exists in a large quantity of urine, may be obtained in a separated and concentrated form. It is just the process that is wanted for showing the condition of ordinary urine in relation to sugar; and not only may it be used for qualitative, but likewise for quantitative, purposes.

A few words will suffice to describe its mode of application, and in the course of my description I will illustrate the steps of the operation. The sample of urine, in any quantity that it may be considered advisable to take, is first treated with an excess of the neutral acetate of lead. The effect of this is to produce a copious precipitate, the uric acid, sulphuric acid, phosphoric acid, chlorine, and doubtless some other constituents of the urine, being carried down. The sugar remains in solution untouched. Filtration is performed, and the filtrate, which is the product with which we are concerned, is treated with ammonia and a further quantity of acetate of lead, unless a large excess of this agent has been in the first place used. The sugar now falls amongst the copious precipitate again produced. In an acid solution—and such the urine as first taken was—the plumbic acetate does not lead to the precipitation of sugar, but in the presence of free ammonia a definite insoluble compound is formed, consisting of two atoms of sugar and three atoms of oxide of lead. The object now is to collect and wash the precipitate, and then liberate the sugar. It is quite requisite, in view of the subsequent application of the copper test, that all the free ammonia should be removed, and the washing is best effected by a few repetitions of subsidence and decantation before throwing on the filter. The washing is then carried on till the water which passes through no longer gives a blue colour to reddened litmus-paper. The necessity of removing all the ammonia has been mentioned, for unless this is thoroughly done, its presence will interfere with the proper precipitation of the suboxide should the copper test be subsequently employed.

Washing with hot water expedites the process by causing the precipitate to assume a more dense form, and thus more rapidly to subside, in the process by decantation, and also afterwards to be more readily percolated on the filter. Experience has taught me, however, that danger is incurred of losing some of the sugar. The combination between the sugar and plumbic oxide seems not to be a strong one,

and with boiling water I have reason to think that the sugar may be entirely removed.

The washed precipitate is next treated in such a manner as to liberate the sugar. This may be done by the agency of hydrochloric, sulphuric, or oxalic acid, but a somewhat coloured product is the result. It might be suggested also that the acid may lead to the formation of sugar, or of a substance that, like it, exerts a reducing action on the copper test, from some other constituent of the urine, whether colouring matter or not, carried down with the lead precipitate. Schunk has pointed out, and I can confirm his statement, that boiling hydrochloric acid certainly appears to act in this way. No exception, however, can be taken to the use of sulphuretted hydrogen; and with this agent a better, because purer and more colourless, product is obtained. The precipitate with a little water is placed in a suitable apparatus and a stream of sulphuretted hydrogen passed through till decomposition is thoroughly effected, which may be known by the uniform production of intense black sulphide. With a moderate amount of precipitate a few hours will suffice for the purpose. Filtration is next performed, and the excess of sulphuretted hydrogen expelled by heat. The liquid is then brought down to a small bulk, either over the water bath or in the vacuum of an air-pump.

I have here mentioned the main points requiring to be referred to. Full details upon the whole subject I gave in a communication "On the Recognition of Sugar in Healthy Urine," inserted in the Guy's Hospital Reports for 1876.

If we take the product that has been obtained, and test it with the copper test a neat reaction is produced [result shown]. Such is the result that we notice, but the question arises—Is this result to be taken as conclusive evidence that sugar is present? There can be no fallacy arising through the presence of lithic acid, which exerts a certain degree of reducing effect with the copper solution, for this principle was eliminated with the first lead precipitate in the process employed. We need not, however, rest with the action of one test only. Moore's or the liquor potassæ, and Böttger's or the bismuth test, equally give a good reaction [result shown]. Further, there is another test, which is accepted as affording crucial evidence regarding the presence of sugar—I mean fermentation, and this may be shown to give a positive behaviour. In my early efforts I failed to obtain a reaction with this test, even although I had manipulated with urine to which I had purposely added sugar. I afterwards found the failure of reaction arose from the acidity of the product yielded by the process of preparation employed. It did not occur to me at first to look to this point, but Pasteur has shown that acidity opposes, whilst alkalinity favours, the occurrence of fermentation. After removing the acidity by neutralising with carbonate of soda, I found that fermentation actively proceeded. Some of the product obtained from healthy urine has been set going with washed yeast in this fermentation apparatus which I have devised for the application of the test. It may be seen that a considerable amount of gas has been generated and is accumulated in the upper tube. I propose to show, by the action of potash, that this gas consists of carbonic acid, and the chromic acid test will reveal the presence of alcohol in a few distilled drops from the fermented contents of the lower tube [experiment shown]. A counterpart application of the test with yeast and water was started at the same time as the other, and the result shows that only a comparatively insignificant amount of gas has been generated.

The evidence, then, that has been presented ocularly before you, may be taken, I consider, as affording a demonstration of the existence of sugar in healthy urine. It is confirmatory of the results obtained several years back by Brücke and Bence Jones. We are not correct, therefore, in inferring from a negative reaction under the ordinary mode of testing that proof has been afforded of an absence of sugar. It is customary, it is true, on examining urine and finding that no reaction is given by the copper test, to speak of it as free from sugar. As far as the requirements of clinical observation are concerned, such language may continue to be used, for the amount of sugar which is beyond the reach of ordinary testing in a decided manner to reveal has no clinical significance belonging to it. This I need hardly say should be taken as thoroughly understood. When precision, however, has to be considered, we are not justified in so expressing ourselves.

Not only can it thus be said that sugar exists in healthy urine, but the amount present is susceptible of being expressed in definite terms. Having satisfied ourselves by the corroborative evidence of the fermentation and other tests that we have really sugar to deal with, the information afforded by the copper solution may be accepted for quantitative purposes. There is no difficulty in obtaining a satisfactory result with a moderate quantity of urine. It is only lately that I have realised this to be the case. Even 100 cc. (about four fluid ounces) will suffice for the analysis. With double this quantity it is even easy to obtain a concentrated product, which gives a very perceptible reaction on being tested in the ordinary manner with the copper solution.

For the quantitative analysis the lead process which has been described is employed to furnish the product for making the determination. To the quantity of urine named an ounce of a saturated solution of acetate of lead is added. Filtration is performed, and to the filtrate ammonia is added till it no longer produces a precipitate. The amount of acetate of lead employed not only suffices for the precipitation of the lithic acid, &c., but enough remains afterwards to carry down the sugar in the second precipitation with the ammonia. This precipitate is collected and washed, and then decomposed with sulphuretted hydrogen. For the determination of the sugar, the gravimetric process with the copper liquid—which I shall have especially to speak of further on—is employed.

The following are representations of the amount of sugar given with specimens of urine which, tested ordinarily with the copper solution, afforded the reaction specified in the table. It is convenient to represent the sugar in parts per 1000 for the sake of uniformity with the results that will hereafter be given relative to the blood and liver:—

Sugar contained in normal urine.

	Sugar per 1000 parts.
Urine from healthy person, giving no reaction when tested ordinarily	0·276
Ditto ditto ...	0·206
Ditto ditto ...	0·096
Urine from patient with tubercular meningitis	0·232
Urine from phthisical patient, giving trace of reaction, tested ordinarily	0·433
Urine from dyspeptic patient; very slight reaction, tested ordinarily	0·533
Urine passed after the administration of chloroform; decided reduction of copper solution, tested ordinarily	1·429

In order that the bearing of these figures may be realised, I will furnish upon the same scale the amount of sugar that would be contained in samples of diabetic urine of different degrees of intensity:—

Sugar in diabetic urine.

	Sugar per 1000 parts.
Urine of sp. gr. 1040, with 40 grains of sugar to the fluid ounce (a common condition in a severe case uncontrolled by diet) ...	87·90
Sp. gr. 1040, and 30 grains to the fluid ounce	65·92
Sp. gr. 1035, and 20 grains to the fluid ounce	44·16
Sp. gr. 1025, and 10 grains to the fluid ounce	22·27

The fact, then, that we have to deal with is that there is no abrupt line of demarcation or distinction of an absolute kind between the urine of health and that of diabetes. There is a difference, and a very marked one, it is true, from a quantitative point of view, at the two extremes, but the transition is not abrupt from the one state to the other. Every grade of variation in the amount of sugar is encountered upon different occasions. A sufficiency to give a slight reaction under ordinary testing is not uncommon, and sometimes an amount exists that can be definitely determined without the aid of precipitation by the lead process. I have, from time to time, come across specimens of urine that have contained a few grains to the fluid ounce—say from five to eight parts per thousand—as an incidental occurrence. These instances occasionally happen without the urine, before or afterwards, presenting a similar state, and without anything to point to the existence of diabetes. Such a condition has no clinical significance, and it is only where sugar persistently exists, or appears in the urine under the consumption of an ordinary amount of starchy and saccharine food, that it can be considered that a distinctly morbid state prevails.

Having said thus much with regard to the urine, I propose to pass to the blood. Further on I shall have more to say upon the urine in relation to the condition of the blood. I

wish here simply to fix your attention upon these facts—viz., that sugar exists in healthy urine, that the amount can be expressed in definite terms, and that the difference between health and diabetes, as far as the urine is concerned, is in reality one of degree and not of kind. If the small amount of sugar which is beyond, or just within, the reach of ordinary testing to reveal, has no clinical significance, it has, on the other hand, I consider, great importance, as I shall hereafter show, with reference to considerations which stand at the basis of our views on the relations of sugar in the system.

Clinical Lecture ON ANTISEPTIC OSTEOTOMY.

Delivered at the Royal Infirmary, Glasgow,

BY WILLIAM MACEWEN, M.D.,

SURGEON AND LECTURER ON CLINICAL SURGERY AT THE INFIRMARY.

GENTLEMEN,—For some time past those of you who attend my wards have seen under treatment two patients on whom osteotomy was performed for the relief of knock-knee; and, as I intend performing a similar operation this morning, you will allow me to bring the subject of antiseptic osteotomy briefly under your notice.

We may date the introduction of osteotomy, in its modern acceptation, from the time when a firm faith in the value of antiseptics had gained possession of the minds of some surgeons who saw that they thus possessed a power enabling them with safety and surety to undertake operations which otherwise would be so dangerous to life that they were never contemplated. The credit of first performing antiseptic osteotomy in its scientific spirit is due to Professor Volkmann, of Halle. Within a few days after receiving Volkmann's *brochure* containing two cases of antiseptic osteotomy, an instance of anchylosis of the knee came under my notice, closely resembling those spoken of by that celebrated German surgeon; and, as this turned out to be my first case of osteotomy, you will permit me to refer to it in a few words.

In the month of March, 1875, I was consulted by the parents of a girl, six years of age, who was affected with a stiff bent leg. Her father stated that she had had scarlet fever about a year previously, and that as a sequela her right knee-joint suppurated, causing her great pain, which became excruciating whenever the limb was attempted to be stretched. Not foreseeing the consequence, she was allowed to keep the limb flexed until the pain had subsided, when it was discovered that the knee-joint was stiff, and the limb could not be stretched, thus rendering her unfit to walk except by the aid of a crutch. She had a delicate appearance. Her right lower limb was flexed at the knee to nearly a right angle, and anchylosed, though permitting a perceptible amount of motion. The patella was fixed to the outer, and partly to the under, surface of the femur. The affected limb was smaller than its neighbour, and the measurement showed fully half an inch of shortening. Forcible straightening was here out of the question. I therefore determined to perform osteotomy. On April 11th, 1875, I removed a wedge-shaped portion of bone from the anterior surface of the femur; the posterior layers were then fractured, and the leg straightened, though, as the joint was stiff, it was considered expedient to keep the limb slightly flexed, as in that position it would be more convenient for sitting, and at the same time would interfere little with her walking. The wound was dressed and the limb put up in plaster-of-Paris, windows being left for dressing. The parts healed as a typically antiseptic wound does. There was no redness about the wound, no pus, no fever, no constitutional disturbance. In May she was removed from her lodging in Glasgow to her own home in the country, where, toward the middle of June, she was able to walk about, the bone being then firmly united. Now she walks easily, without a stick or other support, though with a slight limp.

This, then, gentlemen, as far as I am aware, was the first case of antiseptic osteotomy performed in Britain (eighteen months prior to Mr. Maunder's, and twenty months prior to Mr. Barwell's case; Mr. Lister, I believe, performed osteotomy during the winter session 1875–76). Since that operation another opportunity did not present itself to me for the performance of osteotomy till 1877, when the patient whom I now show you came into the hospital. The history of this case, taken from my journal, is as follows:—

CASE 2.—A. R——, aged eighteen years, came under observation in May, 1877, suffering from an aggravated state of genu-valgum. He was a pale, delicate-looking lad, with soft tissues and feeble pulse. His parents and family were healthy, though he represented one of his sisters as having weak ankles. He first became affected when he was nine years of age, and the knees have gradually inclined more and more till within the last six months, when he was reduced to such a state that he could neither walk nor stand for more than five minutes at once, and even during that time he suffered considerable pain. He was unable to stand on one leg. When asked to stand, he crossed one limb in front of the other, the one foot resting on the outer side of the dorsum of the other foot. Both when standing and walking he kept his body bent well forward. He could not walk without a stick or support. His walk was laboured and evidently distressing, the one knee having to circumnavigate the other in a cumbrous fashion. His feet were inverted as they met the ground, and his toes grasped the surface of the floor, in an attempt to steady himself. The internal condyles measured fully an inch in length more than the external condyles. The patellæ were thrown outwards, and the patellar articular surfaces of the femora were exposed. The heads of the tibiæ were also enlarged.

Under these circumstances he was desirous that something should be done for his relief. Owing to his weak constitutional state, I would have preferred sending him to the country for a time before operating, but as he was unfit to take anything like exercise, I determined to operate on one limb at once. This was done on May 19th. An incision was made over the inner condyle of the right femur, the centre of which corresponded with the upper part of the condyle, my object being to go as near to the joint as possible without opening into it. A V-shaped portion of bone was struck out by the chisel from the inner side of the condyloid extremity of the femur, the remainder of the bone was broken, and the limb was brought round straight. The operation and after-treatment were conducted antiseptically. During the first fortnight there was an oozing of blood and serum, afterwards there was a distinct discharge of pus, though very small and perfectly sweet. The limb was placed in a half box splint, the foot being elevated. As this was the first case of osteotomy for *knock-knee* which I had performed, I kept him in the hospital for a longer time than I now see was necessary. He was dismissed with a firm strong limb and a perfectly mobile knee-joint. As he was then able to walk, he went to the country to recruit, and did not return till November to have the other limb operated on. He was then improved in health and much pleased with his one straight leg.

FIG. 1.

After first operation on right leg; the left leg in natural state.

FIG. 2.

After both operations.

These woodcuts are taken from photographs.

On the 17th November, 1877, the left limb was operated on in the same manner as above described. It was afterwards put up in a paraffin splint, with a small window cut in it for reapplication of the dressings. This splint acted

well, and was very easy and comfortable. This time also there was a purulent discharge, though slight and aseptic. At the end of the fourth week the paraffin splint was removed, and the bone was found firm. A support of Gooch was then applied to the outside of the limb. It was removed at the end of the sixth week, when he was allowed to get out of bed.

You will observe that in this case suppuration took place after both operations. I attribute this, partly at least, to the wounds having been closed with sutures immediately after the operation, although there was a drainage-tube also inserted. In my first osteotomy the wound was left open, and it healed by vitalisation of the blood-clot between its lips; and in the case which I will show you next the same thing happened after similar treatment of the wound. But although in this lad's case there was slight suppuration, there was at no time any inflammatory blush round the part, and no constitutional disturbance, his rectal temperature on the second day after the operation being 100·6°, and it gradually decreased from that date. Now, as you see him, his legs are straight, he can flex his knee-joints, he walks without a support, and he feels very happy at the result. (See Fig. 2.) When his clothes are on, no one would surmise that he had once been the subject of knock-knee. In this instance the operations were not performed as a mere convenience, but as an absolute necessity in order to allow of locomotion, as you remember he could neither stand nor walk for more than five consecutive minutes prior to the operation.

CASE 3.—The next case which I bring under your notice is this girl, whom some of you may remember as having had a marked knock-knee of the right limb, while the left lower limb had an outward compensatory curve. She is seven years of age, and she became affected with knock-knee about four or five years ago. The internal condyle was fully three-eighths of an inch longer than the external condyle, and when admitted she walked with an awkward gait. A similar operation was performed on the knock-knee to the one above described, and, profiting by the observation in our last case, the wound was left open, three threads of silk gut being inserted as a drain. Antiseptic dressings and a paraffin splint were then applied, a lid being cut in the splint for after-dressing. You now observe that the limb is still retained in its paraffin casing; a portion of carbolised gauze is placed on the outside of the paraffin lid, and, as it opens at the most dependent part, any discharge would show itself on the outside of this lid on the removal of the antiseptic guard. Were we about to dress this case, the spray would be turned on, the carbolised gauze removed and examined, and, if any stain were found on opening the lid, the dressings would be renewed. But, as it is, this wound was looked at, for the first time, two weeks after the operation, and found healed, the superficial layer of blood-clot shriveled and still partially adhering to the surface. On the dressing next to the wound there was only a slight stain of dried blood; there was not a single drop of pus. She suffered no pain, and her temperature never rose a degree above normal. The cicatrix is about an inch in length.

This result is what may be confidently expected in the great majority of cases where antiseptics are thoroughly carried out, and where other sources of irritation than decomposition are excluded. It approaches to what I consider to be the very poesy of surgery—a painless and practically a bloodless operation, healing without a drop of pus: I might say absolutely bloodless, because, although there is generally an oozing from the bone, yet in this instance there was not more than sufficient to fill the lips of the wound; even that small quantity has been reclaimed by the body, and has become vitalised.

I now show you the girl on whom I intend operating this morning. I had stated to some of you a short time since, that children affected with knock-knee could, as a rule, be cured without a cutting operation, but when the internal condyle is distinctly elongated then there is little hope of effecting a cure by other than operative procedure. When the ligaments and soft parts are alone affected, or even when there is slight osseous inequality, the application of splints or supports may produce a cure. In this case the internal condyle of the right limb is elongated by fully a quarter of an inch, while the corresponding portion of the left limb is almost normal. In the former cases I removed a wedge-shaped portion of bone, in order to make up for the great amount of deformity. In this case I shall merely make an incision with the chisels graduated in such a manner as to form a slight wedge-shaped opening without removal of bone. The site selected for the operation is the condyloid extremity of the femur, a short distance above the anterior fold of the synovial pouch, and also clear of the epiphysis. In operating at this point, it is desirable that the chisel be made to penetrate well through the bone before attempting to rupture the outer layer, as I have ascertained by experimental investigation that if the attempt be made to fracture the bone before the chisel has penetrated further than the half of the diameter, an obliquely longitudinal fracture, running into the joint, is apt to ensue, thus separating the internal condyle. This result would resemble Ogston's operation of dividing the internal condyle; but it should be carefully avoided, as an irregular articular surface is apt to be formed, whereas in the operations carried out in the cases I have just shown you the deformity is rectified without interfering with the movements of the knee-joint.

[The operation was then proceeded with, the limb being brought round straight, and being put up in a paraffin splint, under antiseptic precautions. It may be added that this wound was looked at for the first time two weeks after the operation, and found healed, the superficial layer of blood-clot shriveled and partly adherent.]

ON

SURGICAL EVIDENCE IN COURTS OF LAW,

WITH SUGGESTIONS FOR ITS IMPROVEMENT.

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(Continued from p. 418.)

I.—ON THE POSITION OF SURGICAL WITNESSES, AND ON CONFLICTS OF EVIDENCE.

THE present system of compelling the personal attendance in courts of law, under heavy penalties, for the purpose of giving oral evidence, of all those surgeons who have attended or been consulted in a case of injury on which a claim for compensation is founded, is not only, as I have endeavoured to show, attended by the greatest possible inconvenience, amounting often to great hardship to the surgeon himself, but, what may be considered of more importance, is the source of much suffering, and no little danger, to the public by depriving them for a time, often for days together, of medical service, possibly in the time of greatest need. Thus, in a recent case, of very trivial importance, no less than three medical men were called from the Isle of Portland, and detained in London for several days.

But there is another evil attendant on the present method of subpœnaing surgeons on one side or the other in compensation cases—viz., that it leads to conflicts of scientific opinion in court, by which, to say the least, the ends of justice are seldom furthered. As was somewhat sarcastically said not long since by one of the greatest ornaments of the Bench, Lord Coleridge, at a public dinner, such conflicts of scientific opinion are puzzling "to a judge who knows little, and to a jury which probably knows less," of science. His Lordship omitted all reference to the knowledge possessed by the Bar, but it would probably only be fair to assume that it does not occupy a higher standard than that at which the learned and accomplished judge so modestly placed the acquirements of the Bench. There is most certainly nothing discreditable in the fact that the Bench and the Bar should be equally ignorant of the most ordinary facts in anatomy and pathology, or of the elementary principles of physiology. Their studies have taken different, it may be said almost opposite, directions to those of biological and pathological research. But though no discredit can possibly attach to the individuals, the system under which they act can scarcely be commended, when men who, on the highest legal authority, are said to know little of science should be the arbiters of cases for the proper comprehension of which a knowledge, and sometimes a profound knowledge, of medical science, and a very special acquaintance with some of its departments, is imperatively necessary. The lawyers do

their best, and often with consummate skill and judgment under serious disadvantages, for they have to strive against a system which is equally unjust to them and capricious in its operations on their clients.

Of these conflicts of opinion I have elsewhere written at some length,[1] and I need not enter upon that debateable ground here; but from no inconsiderable experience in these matters, I can truly say that I believe that the frequency and the extent of these conflicts of scientific opinion have been greatly exaggerated; that the present system adopted in courts of law tends to foster them, and that under a different system they would almost entirely, if not completely, be set at rest. So far as their frequency is concerned, I believe I speak very considerably within the mark when I say that in at least 90 per cent. of all cases of surgical injury in which claims for compensation are raised, there is perfect accord between the various medical men concerned as to the nature, the extent, and the probable duration of the injury. Such cases as these are necessarily settled out of court, and, as they do not become the subject of judicial investigation, do not attract the attention of the public. In the small remainder of cases, certainly not amounting to one-tenth of the whole, a discrepancy of opinion will arise. This difference of opinion is not, as a rule, in respect to the facts of the case, but has rather reference to the possible pathology, the real extent of the injury, and probable duration of the symptoms consequent on the injury sustained. And when we consider that these injuries are chiefly of a spinal and cerebral kind, that they affect organs and structures the pathology of which is not accurately determined, and consequently less well understood than that of any other parts of the body, the physiology of which is indeed only emerging from chaos, we cannot be surprised at the occasional want of unanimity which occurs even amongst men who are exceptionally well informed on the subject of the injuries and diseases of the nervous system. Were such differences of opinion in the diagnosis and pathology of obscure and complicated diseases, whether of the nervous system or of other and more accessible parts of the body, only exhibited by medical men when they appeared in courts of law, the spectacle would indeed be a melancholy one, and would augur ill for the character and, possibly, even the honesty of our profession. But such conflicts of opinion are the unavoidable accompaniments of all that is still vague and uncertain in the science of medicine. It is, indeed, most unfair to the medical profession to stigmatise it as the only one in which there is a "glorious uncertainty." In every department of life, in politics or religion, in science or the law itself, conflict of opinion occurs to, at least, an equal extent as that which is met with in medicine. There is much in medicine, and probably more in surgery, that is absolutely settled and determined; but in some departments there still exists, and in none, unfortunately, more conspicuously than in that which becomes the subject of investigation in courts of law—namely, the remote consequences of injuries of the nervous system, one of the most intricate, obscure, and difficult problems in surgery,—a considerable amount of uncertainty both as to the true pathology and the possible duration of such lesions. But he must, indeed, have had but a slender experience in the practice of our profession who has not witnessed conflicts of opinion arise, and not unfrequently too, in other places than courts of law. In the hospital ward, in the dead-house, in our medical societies, in the consulting-room of the practitioner, or in the sick room of the private patient, differences of opinion as to diagnosis and pathology are of frequent occurrence. Such conflicts are, with the increased precision of medical knowledge, daily becoming less frequent here as well as in courts of law, and it may, perhaps, with truth be said that in some cases they are the result of one practitioner possessing a deeper and clearer insight into the real nature of the disease under discussion than his fellow-consultants have as yet attained to. Inequality of knowledge will certainly cause conflict of opinion. He who is content with the knowledge of the pathology of the nervous system as it existed twenty, fifteen, or even ten years ago, cannot appreciate, and hence cannot coincide with, views founded on the more advanced and more accurate investigation of its diseases, and a clearer insight into the physiology of the brain and cord. But even between men equally well informed conflicts of opinion are on certain points not only unavoidable, but perfectly legitimate, and reflect no discredit either on the science of medicine or on those who entertain conflicting views. On the contrary, such conflicts of opinion may be looked upon as highly creditable to the independence of thought, the contempt for authority, and the individual self-reliance that characterise professional opinion at the present day.

To revert to the subject more immediately under consideration, in such obscure and complicated diseases as are those that result from injury of the brain and spinal cord, the same group of symptoms may, and indeed must, receive different interpretations as to the exact nature of the pathological lesion of which they are the external manifestation from different observers, and the opinions based on these must be as widely divergent as are the interpretations of the phenomena on which they are founded. Let me give an illustration. Not long since I met in consultation two physicians of great eminence on the case of a lady who had become paraplegic during pregnancy, and in whom there was a suspicion of disease of the spinal column. In this case electric sensibility, irritability, and reflex action were all completely extinguished, the lower limbs being as insensible to every stimulus that could be applied to them as those of a dead body. One of the consultants pronounced the symptoms to be due to softening of the cord, that the paralysis was incurable, and would consequently be permanent. The other gave it as his opinion that there was no organic disease of the cord, that the paralysis was functional, so-called "hysterical," possibly dependent upon anæmia of the cord, and that the patient would recover. This opinion proved to be the correct one. Now had the paraplegia followed upon an injury sustained on the railway, had this case come into court as it most certainly would have done, if these two physicians had been consulted, the first by the patient, the second by the company, a most intractable and irreconcilable conflict of opinion must have arisen, and one that would have been perfectly honest, but dependent upon the different interpretation, the different value assigned to a particular group of symptoms, by two different physicians, both considered, and justly so, to be equally competent to form an opinion in such a case.

As has already been stated at the commencement of this article, there are three classes of medical men who appear as witnesses in that last small residue of compensation cases that drift into a court of law. These are, first, the *bonâ fide* medical attendants of the plaintiff; secondly, the ordinary medical officers of the company; and thirdly, the consulting practitioners—so-called experts,—those surgeons who are called either by the plaintiff or by the company to give opinions on the nature, the extent, and the probable duration of the symptoms resulting from the accident that the plaintiff has sustained. Now, the duties of the first two classes of witnesses are usually simple enough. They consist in a great measure in relating the surgical history of the case, the treatment adopted, followed by some general opinions as to its future. The real conflict of evidence, if it occur, lies between the so-called "experts," whose opinions, just as in the case of the paraplegic lady to whom reference has just been made, may differ widely as to the essential nature of the actual condition and probable future of the patient. Now, let us inquire for a moment by whom this class of witnesses is summoned, and why particular individuals are commonly selected by one side or the other; for, unless I am greatly mistaken, it is in the method of summoning and selecting particular surgeons that we shall find the key to the cause of conflict of opinion that is an almost inevitable result. They are imported into the case by the litigants themselves, and not appointed, as I conceive they ought to be, by the court. Now this method of appointing "experts" is radically wrong. It is productive of many evils. A man who is retained and paid by a litigant is apt, with the purest intentions, possibly unconsciously, almost instinctively, to become biased in favour of the side that he is called upon to support. He is inclined to look for the strong points in his own case, and the weak ones in that of his opponents. However mindful he may be of the solemn and threefold obligation that he takes on entering the witness-box, he may, more particularly if he feels strongly the justice and truth of his own views, be led to endeavour to convince rather than to guide the court as to what he believes to be the right view of the case—to infuse somewhat of the advocate into the witness; and if he escapes this danger, and to the best of his ability gives his evidence

[1] Concussion of the Spine, Nervous Shock, and Obscure Injuries of the Nervous System; Lecture xiii., p. 360, et seq.

without prejudice for or against, he is apt to be suspected of bias, which is almost as fatal to his character as a witness, and to the cause on behalf of which he is summoned. The selection of particular individuals is usually guided by the fact that the views of many surgeons with respect to the nature and the pathology of the injuries of the nervous system are well known, either through their published works or from their having been expressed openly in court. Hence each litigant, or, rather, their legal, and, probably, their more intimate medical advisers, take care to consult a surgeon, with the view eventually of subpœnaing him, whose views are known to be in accordance with those they wish to have expressed. Thus men honestly and truly entertaining certain views with respect to a special class of injuries, but views that do not accord with one another, come to be pitted against each other when they are required to express in court those opinions which they are well known to entertain. Thus, in the case to which reference has just been made, the physician who gave it as his opinion that the paraplegia was due to incurable disease of the spinal cord would certainly have been called by the patient, whilst he who looked upon it as of a functional and curable character would as certainly have been summoned to give evidence to that effect by the company. Let us suppose, for example, that such a question as the "germ theory of disease" became imported into a medico-legal case. The plaintiff, who wished to prove that his sufferings were due to the implantation of germs into his wound by the culpable negligence of the defendant, would certainly summon Professor Tyndall to support his case, whilst the defendant would as certainly invoke the aid of Dr. Bastian to prove that the germ theory is a fallacy, and that the disease was of spontaneous generation. The scientific witnesses would be selected by either side on account of their previously known and published opinions on the question at issue, and a "conflict of scientific evidence" must infallibly ensue.

Conflicts of opinion amongst surgeons rarely, if ever, arise about facts. The only such cases in which I have known them to occur have been as to the condition of the eye as revealed by the ophthalmoscope. All cases of pure surgical injury, such as fractures, dislocations, ordinary wounds, have never, so far as I am aware, become the subject of disagreement, and, indeed, hardly admit of it. But it is in the deductions drawn from admitted facts, and the opinions that may legitimately be based on them, that different views are entertained. The difference of the views thus entertained often appears to a non-medical tribunal to be much wider than it really is. It is often rather a difference of degree than an actual divergence of opinion as to actual condition, and if the case were tried before a tribunal possessing the requisite amount of medical knowledge to form an independent judgment as to the point at issue, these differences would often be narrowed to a very slender line or be completely reconciled. But Lord Coleridge hit the blot in the very interesting remarks that he made on the occasion referred to on the conflict of scientific evidence in courts of law, although, perhaps, he did so unintentionally. Discrepancies in scientific opinion are often fostered, and when they arise cannot be reconciled or explained away, or the due value assigned to conflicting statements, in consequence of the want of scientific knowledge on the part of the tribunal before which the case is tried. How is it possible for a judge who knows little, and a jury which knows less, of science to form a trustworthy estimate of the scientific medical evidence that is brought before them; more especially when the evidence has relation, not to matters of fact, but to opinions on some of the most difficult, the most obscure, and still the most unsettled problems in physiology and pathology—namely, those connected with the functions and diseases of the brain and spinal cord? Let us reverse the picture. Suppose that one of the most distinguished surgeons of the day who knew but little of law were to try a case involving some of the most obscure and complicated questions of legal science, and that he had called before him various Queen's Counsel or serjeants learned in the law as witnesses on either side, would it be possible for him to come to anything like a trustworthy conclusion, or one that would be satisfactory to the members of the Bar, on the question at issue? And yet the cases appear to be tolerably parallel—a judge who knows little of science sitting in judgment on a case involving scientific questions of the most obscure character, or a surgeon who knows little of law doing the same by a legal one, and all this before a jury said by a learned judge to know less than little of the matter in dispute before them.

That a want of specially skilled scientific acquirements on the part of the court is felt to be a serious evil is evident from the fact that in some cases in which questions arise that require for their proper and just solution an amount of technical knowledge which an outsider, however skilled in other branches of learning, cannot be expected to possess, the Court is assisted in its conduct of the case and in its judgment on it by men who have a special professional knowledge of the points at issue. Thus in the Admiralty Court the judge is assisted by the Trinity Masters, in the Wreck Commissioners' Court by two naval officers who act as assessors. It is felt that questions connected with the science of navigation and the practice of seamanship are too technical to be decided by a tribunal which possesses little knowledge of such matters unless assisted by men who have made the one their special study, and the other the business of their lives. But, surely, the science of navigation is not more specially difficult than that of medicine, or the practice of seamanship than the art of surgery, and yet a judge feels himself incapable, unaided, to pronounce on the one, and has no hesitation in doing so on the other. A special technical knowledge of the question at issue is absolutely necessary in order properly to master its details, and to form a competent judgment on the opinions brought forward in support or in contradiction of it. No general soundness of judgment, no amount of general learning or even of scientific attainment in other departments, will enable a judge to decide whether a ship was on its proper course when a collision occurred, or whether a particular train of symptoms are indicative of some special pathological change in the spinal cord. These questions can only be correctly answered by those who are specially and practically acquainted with that branch of science to which each belongs. In order to judge of the value of so-called "scientific" evidence, a special and technical knowledge of that particular branch of science, and of its applications as an art to which the subject under consideration belongs, is needed. A man may be a proficient in one department of science, and utterly incapable of giving an opinion on another. He may be deeply versed in exact, and be profoundly ignorant of natural, science. He may be intimately acquainted with one department of natural science, and know absolutely nothing of another. A Herschel or a Faraday would have been as incompetent to give a scientific opinion on a purely physiological or pathological point, as a Hunter or a Baillie might have been to solve an astronomical problem or explain a chemical phenomenon. The value of special technical evidence can alone be judged by those who possess special technical knowledge of the same department of art or science.

(To be continued.)

ON THE

TREATMENT OF ORGANIC STRICTURE OF THE URETHRA,

ESPECIALLY BY THE SYSTEMATIC USE OF TAPERING METALLIC DILATORS.

BY OLIVER PEMBERTON, F.R.C.S. ED.,

SURGEON TO THE GENERAL HOSPITAL, AND PROFESSOR OF SURGERY IN THE QUEEN'S COLLEGE, BIRMINGHAM.

IT is impossible to peruse the many contributions to the surgical treatment of organic stricture of the urethra, with which the journals abound, without being struck with the very marked revival of the plan of attempting to get rid of the obstruction by internal division. From week to week new instruments are devised for this purpose, bearing in many instances the names of their inventors, a guarantee, as it were, of the ability and experience brought to bear on their construction.

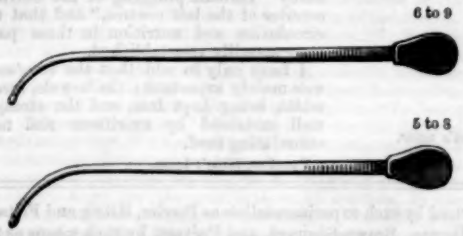
I trust, without too great confidence, I may be able, in what I am about to state, to recall the attention of the profession to the neglect of the simpler and what I venture to think the safer means of systematic dilatation. It strikes one that this, after all, must be regarded as the most natural way to treat stricture. It commended itself to our pre-

decessors for generations, and in our own times has had many advocates; but, notwithstanding, it appears to me that its value just now is in danger of being lost sight of altogether.

With very few exceptions—and these I will point out,—all organic strictures admit of benefit by dilatation, and most of them of permanent relief. I do not believe in the word "cure," as applicable to any case of organic stricture by any mode of treatment, and it would be well if the patient understood this a little better than he does in the many instances where elaborate measures have been taken to bring this about, to the exclusion of that instruction of how to be his own surgeon by he himself carrying on the necessary use of dilatation.

There is, moreover, another point that has always struck me in regard to the treatment of permanent or organic stricture, and that is, that it is not needful in all cases to endeavour to restore to the full extent the original calibre of the passage. Given that this, before being diseased, stood at a measure, say of No. 12,[1] that now it is practicable only to No. 4, and by dilatation is brought by the surgeon and kept by the patient at No. 8, to the relief of all and every distress, surely it will be not only easier, but safer, for the latter to keep it at this than to attempt a restoration by a belief in the ability of cicatricial narrowings to be maintained open, without injury to other parts, at the natural standard of the rest of the canal.

In order to carry out this method of dilatation most effectually, a particular kind of instrument is required. We want essentially a "dilator" and a series of "dilators," each instrument to act on the principle of the wedge, and on that of a series of wedges. We want it to be of weight both in handle and body, and to be capable of taking and maintaining the very highest degree ot smoothness and polish. Until the last few years I had employed a series of tapered silver catheters, but I found in many instances their construction too light and slender for my purpose, so that I suggested to Messrs. Salt and Sons, Birmingham, the plan on which to make for me a very different set of instruments. These consist, then, of a series of six solid metallic "dilators" of ordinary curve. They are made of the best mandril wire, and are coated with nickel, which not only preserves them from rust, but imparts a smoothness and almost a greasy feeling, much facilitating their use. They regularly taper from heel to point, varying, in a length of nine inches, three degrees of the English catheter scale. Thus No. 1 represents a gradual increase of 3 to 6, No. 2 of 4 to 7, and so on to the last, No. 6, 8 to 11. In the annexed figure two intermediate sizes are shown. I have regarded



six as a number sufficient in a set, but I need hardly say the ordinary number of twelve may be provided, so long as the same principle in the tapering be carried out, though, as a rule, in practice the numbers below three will hardly be advisable.

The use of conical instruments to effect dilatation in stricture has been common enough in many hands. Brodie used it at the point only. Sir Henry Thompson long advocated the use of "conical steel instruments," and in a clinical lecture published in 1872[2] he more particularly enforced the advantage of these "conical dilators," as he termed them, but the change in width ended at two inches and a half from the point. What I venture to claim for the instrument I have described is that it is better balanced than others; that it effects dilatation more gradually, and hence more certainly; whilst its influence, extending over the entire length of the urethra, not only secures dilatation at the crucial point, but affects any secondary narrowings also.

As to preliminary treatment. In all cases of long-standing organic stricture, presuming there is no question of retention, which must of course be dealt with by the ordinary rules of surgery, it is desirable that there should be absolute rest in bed for several days previously to commencing dilatation. A warm bath and a purgative daily, as well as the constant fomentation of the perineum by flannels wrung out of warm water, will speedily reduce the hardness in the neighbourhood of the stricture, and will render this, even when cartilaginous, less dense and unyielding.

The "dilator" should be passed, from the first to the last, in the horizontal position, the patient's head being as low as possible. It should be well oiled, and the urethral opening should be allowed to receive as much oil also as it will retain—the supply in this direction to be renewed when practicable. The first dilator having passed, the further enlargement of the canal may be completed by the introduction of the series either in one sitting or in several, according to the extent of the resistance and the general tolerance of the proceeding on the part of the patient. When rapidly completed, I entertain little doubt that the ultimate resistance is overcome by a distinct spreading and splitting of the fibres of the stricture—something beyond a forcible dilatation of them, and yet not amounting to rupture, for if suitably carried out there is no hæmorrhage except a few spots.

As to after-treatment, there is most frequently needed little beyond a fomentation, and rest for a day or two. If pain results, a suppository of ten grains of soap and opium will usually afford relief; whilst rigors, which are infrequent where there is rest beforehand, yield best to the influence of full doses of quinine. Before the patient is discharged he should be taught to pass Nos. 8 and 9, certainly not beyond 10 of the ordinary scale, himself, and be instructed to continue their use each week, or each number of weeks, according to the experience, of which he will be the best judge, of his individual rate of recontraction.

The exceptions to this treatment arrange themselves in two classes: the one where the case is complicated by urinary fistulæ; the other where extensive cartilaginous thickenings mark the severity, as well as the chronic nature, of the obstruction.

For the first, the division of the stricture on a grooved staff, previously passed through it into the bladder—external urethrotomy, as introduced and advocated by the late Professor Syme, is what I believe to be the best plan of treatment.

For the second, something more is wanted than mere dilatation. The cicatricial narrowings will not yield to any satisfactory extent, or if they do their relapse is speedy and certain in the patient's hands. The "something more" in these days, that by many is so strongly advocated, is division by cutting—internal urethrotomy,—the dividing the stricture by the introduction along the canal of a concealed knife, and protruding it, and using it as may be thought needful.

I must own to never having had any confidence in the safety and security of this treatment, and for a very long time I looked with considerable dread on another means that had been proposed for dealing with the stricture—that of forcible rupture; but additional observation and experience has led me[3] to think differently, and rely on this latter method as not only being eminently simple and effectual in practice, but as being almost absolutely free from any kind of risk. If, then, the case be one of non-dilatable obstruction, on the plan I have endeavoured to lay down, I content myself with widening the passage sufficiently to admit the introduction of Mr. Holt's instrument.[4]

I will not stay to discuss what may be the exact nature of the tissues making up the inelastic, and probably cicatricial, barrier, but I feel assured that they are adequately split and separated by its use, and that no healthy parts can be injured. I have adopted this treatment in upwards of fifty cases during the last five years, and have not in a single instance observed any symptoms following its application that gave me anxiety; the febrile disturbance, indeed, that followed in some instances being of the very slightest kind. Afterwards the permanent relief was entrusted to the patient, as in the treatment by dilatation only.

My belief is that there is a kind of surgical effervescence just now scattering itself far and wide to invent fresh instruments for the internal cutting of urethral strictures. The success that has attended patient and systematic dilatation is forgotten; whilst an ingenuity that might have cheered

[1] English catheter scale. [2] THE LANCET, Nov. 30th.

[3] Address in Surgery, p. 30. London: Longmans. 1872.

[4] On the Immediate Treatment of Stricture of the Urethra, by Barnard Holt. London: Churchills.

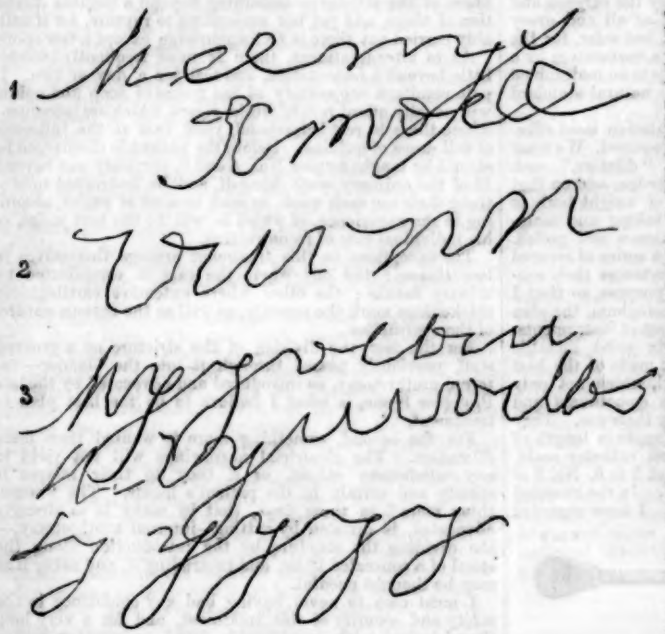
a "Brunel" is bestowed on the construction of yet more engines and machines[2] that can never, in my judgment, take its place in the safe and successful treatment of this disease.

Birmingham.

APHASIA; ALMOST PERFECT RECOVERY AFTER FIVE MONTHS.

BY WILLIAM DALE, M.D.,
PHYSICIAN TO THE WEST NORFOLK AND LYNN HOSPITAL.

Mr. C——, aged seventy-three, a farmer, was in perfect health up to August 6th, 1877. On that day he wrote a letter, and inquired of his housekeeper if anyone was at hand to take it to the post-office, which is about three miles from his house. On being told that none of the men or boys were about, he said he would ride his pony to the post-office and post the letter himself. On his way thither he called and looked at some of his men-servants at work on his farm; but they observed that he merely looked on without speaking. He also met some of his friends and acquaintances that he knew, and they also remembered that he merely nodded to them; and on returning home the man who took the pony to the stable after he dismounted asked him a question or two about the work of the farm, and again he only nodded. When he got into the house, as he could not speak, the housekeeper, seeing something was the matter, sent for medical assistance. His medical attendant, Mr. Raven, of Litcham, found him perfectly intelligent, but unable to speak, and with some weakness of the right side (paresis), but not actual paralysis. He remained in the same state twenty-four hours, when I was summoned to a consultation on the case.



1. Intended for "King's Lynn, Norfolk." 2. For his daughter's name. 3. For "Mr. Raven, Surgeon, Litcham."

I found him quite intelligent, and evidently comprehending all that was said to him, but the symptoms remained as I have described them—viz., he had lost the faculty of speech, and the right side was weakened. Now, however, he could say "yes" and "no," but used the words incorrectly—that is to say, he transposed them. I append a specimen of his writing, which I saw him write before I left the house. From inquiries I made I found that his letters previously were intelligent and well written.

The following extract from a letter which I received from Mr. Raven on Jan. 22nd will show how speedily he recovered his speech, and how well the case has done up to the present time. Mr. Raven says: "He recovered his speech about a fortnight after you were here. Now it is almost perfect. He cannot remember names; knows everyone, but cannot call them by name; attends market, but figures now puzzle him. Deglutition was difficult for about three weeks, and even now he complains of it a little."

The rapid recovery in this case leads to the inference that the cause of the symptoms observed was temporary and probably "embolic plugging of the nutrient arteries of the left centres," and that the circulation and nutrition in these parts were speedily re-established.

I have only to add that the *treatment* was mainly expectant; the bowels, meanwhile, being kept free, and the strength well sustained by nutritious and non-stimulating food.

Paradise, King's Lynn.

THE ARTIFICIAL PRODUCTION OF HUMAN DISEASES IN THE LOWER ANIMALS.

BY W. LAUDER LINDSAY, M.D., F.R.S.E.,
PHYSICIAN TO THE MURRAY ROYAL INSTITUTION, PERTH.

(Continued from p. 418.)

ALLIED, on the one hand, to rabies, and, on the other, to mania, is *epilepsy*, "something very like" which "occurs in dogs, in horses, and in domesticated birds, and may be artificially produced in the Rodentia," according to Professor Russell Reynolds,[1] who nevertheless denies the existence of such a thing as community of disease in man and other animals. Notwithstanding the Professor's doubts, what he refers to is not only "very like" epilepsy, but is epilepsy itself, as veritable as it is in man.

Epilepsy, epileptiform fits, or convulsions, have been produced by such experimentalists as Ferrier, Hitzig and Fritsch, Magnan, Brown-Séquard, and Prévost, by such means as the following:—(1) Electric stimulation of the brain; (2) the injection of (*a*) theine, (*b*) absinthe, (*c*) meconate of morphia; (3) hemisection of spinal cord; (4) complete section of sciatic nerve; (5) amputation of a thigh; (6) confinement; (7) change of room or cage.

Hitzig is credited with "the production of epilepsy by tetanising the brain" in the frog.[3] "Epileptiform convulsions" are given among the results of the application of electricity to the brains of certain animals in the experiments of Hitzig and Fritsch.[3] In Ferrier's hands a similar application of electricity—what is frequently spoken of as faradisation of the brain—gave rise to "epileptic convulsions" in rabbits, cats, and dogs,[4] and sometimes "without any

[2] THE LANCET, Nov. 24th and Dec. 15th, 1877. Mr. Lund's Visit to University College and Internal Urethotomy, by Mr. Berkeley Hill.

[1] British Medical Journal, Aug. 15th, 1874, p. 208.

[3] "Recent Physiological Researches," in British and Foreign Medico-Chirurgical Review, April 1875, p. 342.

[3] Journal of Mental Science, Jan. 1875.

[4] It is noteworthy that Ferrier found the brain of fowls insusceptible to electric stimulation; while Weir Mitchell has pointed out that the same animals are not amenable to the influence of opium. (British and Foreign Med.-Chir. Review, April 1875, p. 345.)

affection of sensibility or consciousness."[5] "Epileptiform fits can be produced by passing electric currents through the cerebral convolutions."[6] He produced epilepsy in the monkey by faradisation of the brain.[7] Brown-Séquard developed "some phenomena of epilepsy" in guinea-pigs by hemisection of the spinal cord, or complete section of the sciatic nerve; and Dr. Prévost by amputation of a thigh. "In order to provoke a nervous attack," in the latter case, "it is sufficient to excite the zone called epileptic, and which comprises the half of the surface corresponding to the member amputated. Immediately the animal is thrown into convulsions."[8] Such a description is most ambiguous, and is perhaps attributable to faulty translation from the French, a fault that is common in the Smithsonian Reports.

Epilepsy was the result of injecting absinthe into the femoral vein of a dog by Dr. Magnan, of Paris, before the British Medical Association, at Norwich, in August, 1874.[9] Theine and meconate of morphia induce "epileptiform convulsions" in rabbits.[10]

"Fits," presumably of an epileptic character, have frequently been described as occurring in cage birds. Thus Dr. Buller speaks of the bell bird of New Zealand as liable, like the Tui, in confinement, to "sudden convulsive fits" that generally and speedily prove fatal. They "seldom survive their confinement very long."[11] The Tui in captivity frequently "becomes subject, after the first year, to convulsive fits, under which it ultimately succumbs. ..... I had as many as ten of them caged at one time, but they died off one by one, and invariably in the manner indicated."[12] A correspondent of the *Animal World*[13] says that canaries and other song birds have "fits from various causes." A mere change in the position of the cage will cause them sometimes "to turn giddy and fall into a fit of semi-consciousness." In canaries especially "convulsive fits" are described as common, and as resulting from the most trivial causes, such as a shift from one room to another, or even change of position in the same room.[14] A certain captured sparrow that was apparently dead from fright, but that revived and escaped, "was either in a fit through fright, or had fainted."[15] The one supposition is quite as legitimate as the other, as we know that syncope occurs in certain at least of the lower animals, in whom, moreover, it is produced by the same kind of causes that operate in the case of man.

Convulsions—that are not described as epileptic, but that may, nevertheless, have been so—are frequently mentioned among the diseases to which some of the lower animals are subject. Convulsions, both general and partial, were produced experimentally by Professor Ferrier at Wakefield[16] in the rabbit, cat, and dog, by faradisation of the brain. "Application of the electrodes to parts of the cortical layer lying far apart causes general convulsions."[17] Brown-Séquard tells us that convulsions are readily produced in guinea-pigs when, after section of the sciatic nerve, the skin is tickled or gently pinched; and he remarks upon the heredity (in the descendants of such animals) of the aptitude for being seized with convulsions or affected with other morbid states of the nervous system,[18] which means that man may produce a serious nervous disease not only in an individual, but in its posterity. Convulsions are said to be the result of the immersion of dogs, for the gratification of tourists, in the hence so-called Grotto del Cane, near Naples.[19] Buffon long ago pointed out that fatal convulsions are apt to occur in the bullfinch; and Pierquin drew attention to the more curious fact that they are producible in the cat and dog sometimes by music, or at least by certain musical sounds. "The action of strychnine on the medusæ is the same as it is on the higher animals"—viz., that of causing paroxysmal convulsions, according to Romanes.[20] Cramp occurs in oxen shipped for the market.[21]

There is obviously considerable confusion arising from the want of definition of the form of convulsions and fits described by different writers as observed in different animals. In all probability they are, for the most part at least, epileptic in their nature including the *petit* as well as the *grand mal* of authors. But it does not necessarily follow that they are all epileptic, and it is therefore desirable that, where possible, their exact character should be specified. I say deliberately, where possible, for I believe it is frequently impossible in human convulsions or fits to determine that they are epileptic, and the difficulty of diagnosis is not likely to be less in the case of the lower animals. In man I am constantly meeting with minor but morbid motor phenomena that I can neither designate epileptic convulsions nor fits; and I cannot therefore expect veterinarians to be always precise in their designation of similar phenomena in other animals.

Chorea was among the results in the rabbit, cat, and dog of Ferrier's experiments.[22] So was

Tetanus, and fatal tetanus is common in the fox run to earth in the hunt.[23] It is well known that it is readily produced in frogs and other animals by strychnia. It was also one of the results of Hitzig and Fritsch's experiments.[24]

Experimental unilateral destruction of the cortex cerebri produces, according to Goltz, three kinds of phenomena—namely:—1. *Anæsthesia*, followed by impaired sensibility, so that pinching and pricking call forth no expression of pain. 2. *Blindness*, so that the mutilated animal strikes its head against obstacles, "gets very imperfect ideas of the nature" of objects, and shows "no fear of objects which, before the operation, had excited great terror." 3. *Paralysis*, temporary, followed, however, by minor motor disability, so that the animal cannot give its paw, or use it otherwise in the ordinary way, for reaching or holding food, or for scratching up earth. On the whole, the result of such cerebral mutilation is to produce in the animal operated on failure to make an intelligent use of its sensation and power of motion.[25]

Anæsthesia of a less serious kind is readily producible in certain other animals, as in man, by various narcotic gases, or by certain drugs. Thus chloroform and chloral produce the same effect on the frog as on man. I do not, however, propose discussing here the wide and important allied subjects of anæsthesia, narcotisation and intoxication, which demand separate and special treatment.

Paralysis, too, is produced in a variety of other ways than by operations on the substance of the brain. Thus traumatic paralysis, in the form of paraplegia or otherwise, is probably only too frequent. Pierquin gives a fatal case of traumatic paraplegia in an ape. A correspondent of *Nature*[26] points out how liable the carnivora in the Zoological Gardens, London, are to paraplegia.

Stunning, or concussion from blows on the head, occurs, only too frequently probably, in the dog and others animals (Pierquin).

Cerebral congestions occur from the use of tight collars in horses (Pierquin). Death occurs sometimes in the parrot[27] and other domestic pets by apoplexy, from over-feeding—one of the many curses of an artificial luxurious life. Ferrier, in some of his experiments, produced suppuration of the brain-surface and fungus cerebri in a rabbit.[28]

Vertigo or giddiness[29] was among the results of Hitzig and Fritsch's experiments; as was also *nausea*, or sickness,[30] which, however, is producible also by many other causes. For instance, it is produced by man for the purposes of capture, or of practical joking, when he mixes tartar emetic with treacle and gives it to monkeys, by smearing the young ones with the seductive mixture, knowing that it will be greedily licked off by their parents (Cassell). Belonging to the category of nausea is the subject of sea-sickness, important to all connected with, or interested in, the transit by sea of domestic animals intended for the market, or for other of man's purposes.

Inasmuch as there has hitherto existed much dubiety as to the very existence of sea-sickness in the lower animals, and as to the liability to it of cattle, horses, sheep, and dogs, I have devoted special attention to the question on board

[5] Abstract of his "Experimental Researches in Cerebral Physiology and Pathology," Brit. Med. Jour., Dec. 27th, 1873, p. 767.
[6] Ibid., p. 346.
[7] According to Dr. Clouston, in the Journal of Mental Science, Jan. 1875, p. 655.
[8] Presidential Address of Henri de Saussure at the Society of Physics and Natural History of Geneva in 1871, as translated in the Smithsonian Report (Washington, U.S.A.) for 1872, p. 353.
[9] Reported in the British Medical Journal for Dec. 12th, 1874, p. 752.
[10] Professor Bennett in his Report on the Antagonism of Medicines, in the British Medical Journal, Jan. 23rd, 1875, p. 97.
[11] Birds of New Zealand, 1873, p. 95. [12] Ibid., p. 89.
[13] Of April, 1874, p. 62.
[14] Animal World, March, 1874, p. 46. [15] Ibid., Dec. 1873, p. 183.
[16] West Riding Asylum Reports, vol. iv., p. 11.
[17] British Medical Journal, Nov. 29th, 1873, p. 641.
[18] THE LANCET, Jan. 1875, p. 8. [19] Animal World, Feb. 1874, p. 30.
[20] Nature, Aug. 2nd, 1877, p. 271. [21] Animal World, Oct. 1875, p. 150.
[22] British Medical Journal, Dec. 27th, 1873, p. 767.
[23] Article on Vivisection in British and Foreign Medico-Chirurgical Review, April, 1875, p. 272.
[24] Journal of Mental Science, Jan., 1875.
[25] Dr. Bowditch, of Boston (U.S.A.), in British Medical Journal, Sept. 2nd, 1876, pp. 317-8.
[26] November 26th, 1874, p. 67.
[27] Beeton's Management of Home Pets.
[28] West Riding Asylum Reports, vol. iv., p. 77.
[29] Journal of Mental Science, January, 1875.

ship during many voyages, varying in duration from a few hours to as much as four months at a time. I have availed myself of every opportunity, not only of observing for myself—for instance, the cattle and horses stowed away in the holds, or on the decks, of traffic steamers between this country and the continental ports,—but I have also "interviewed" on the subject the captains and other officers of such steamers, and the owners or custodiers of the live stock which they habitually carry. My general conclusions are, shortly, the following:—

The captain of the *Dunvegan Castle*, a West Highland steamer, largely engaged (till it was wrecked the other year at Skye) in the transit of live stock between the western highlands of Scotland and Glasgow, informed me (in August, 1874) that cattle, pigs, and dogs are liable to sea-sickness, but he had not himself noticed it in horses or sheep.[30] Captain Stewart, of Colonsay, whom I met on board the said steamer, had no doubt of its occurrence in horses as well as cattle. He had himself observed it, for instance, in horses, while being ferried across from Colonsay to Jura, or *vice versâ*. As for the dog, it vomits very readily on shipboard, as elsewhere, and there can be no mistake, therefore, as to its sickness. But the cow only slavers: it and other animals cannot vomit.[31] Highland cattle-drovers, too, recognise sea-sickness in horses as well as cattle, but not in sheep. On steamers, or in small boats, both horses and cattle are at first restless from the irksomeness of the confinement and restraint: but they gradually—or speedily, as the case may be—become calmed or tamed down by nausea; and it would appear, indeed, that they suffer in the same way, and sometimes to as great an extent, as man does. Payer describes his dogs as having "suffered greatly from sea-sickness"[32] on his homeward boat voyage over the polar sea. Vomiting in a dog, along with nausea, restlessness, diuresis, and diarrhœa, resulted from the subcutaneous injection of a grain of meconate of morphia in one of Professor Bennett's experiments on the antagonism of drugs.[33] Strong infusions of tea and decoctions of coffee were usually vomited immediately by dogs in others of his experiments.[34] The cat is specially liable to vomiting from dyspepsia. The horse is said not to be affected by tartar emetic, and not to be liable to other kinds of nausea.[35] "Rob Roy" Macgregor, in his "Canoe Cruise on the Baltic," says that oxen shipped across the North Sea for the London market are subject even to death from sea-sickness.[36]

Cardiac palpitations of a dangerous kind—that is, to the poor animals themselves—are common in captured birds, from fear, or physical exhaustion consequent on efforts at escape, or from both (Pierquin).

Fainting fits occur in the same and other animals, sometimes from similar exhaustion, sometimes from disease, sometimes from causes physical, mental, or mixed (Pierquin). Fainting in a dog is described by a veterinary surgeon in the *Animal World*.[37] Syncope in a canary, associated with catalepsy, was mentioned long ago by Erasmus Darwin.[38] Dr. Clover tells us that "some animals are less liable to cardiac syncope than others. In dogs, for example, unless some pains be taken to give a very strong dose (of chloroform), the respiration stops first."[39]

(To be continued.)

[30] Nor have I met with any evidence of its occurrence in sheep.
[31] In the horse there are anatomical and physiological reasons why it cannot vomit. In solipeds, in general, there is inability to vomit, except in disease, or under the use of aconite, or other poisons. (Article on "Comparative Therapeutics," in the British and Foreign Medico-Chirurgical Review, April, 1874, p. 402.)
[32] "New Lands within the Arctic Circle," vol. ii., 1876, p. 286.
[33] As quoted by Dr. McDiarmid, in the Journal of Mental Science, April, 1876, p. 31.
[34] British Medical Journal, Jan. 23rd, 1875, p. 97.
[35] "Land and Water," as quoted by the Edinburgh Courant of August 11th, 1876.
[36] As quoted in Macaulay's "Plea," p. 54.
[37] Of March, 1875, p. 35.
[38] As quoted by Pierquin, vol. ii.
[39] He is referring to artificial syncope from or under the administration of chloroform, in his paper "On the Production of Sleep during Surgical Operations," British Medical Journal, Feb. 14th, 1874, p. 201.

THE deaths registered in London last week numbered 1676, of which 277 were referred to the seven principal zymotic diseases. Of these whooping-cough is still the most fatal, and accounted for 124 deaths, small-pox for 42, measles for 34, scarlet fever for 22, diphtheria for 13, different forms of fever for 29, and diarrhœa for 13. The deaths attributed to diseases of the respiratory organs numbered 422.

CURIOUS MONSTROSITY, ACCOMPANIED BY SPONTANEOUS EXPULSION OF THE PLACENTA, WITHOUT HÆMORRHAGE.

BY JOHN HIGHET, M.B. &c.

ON the morning of May 26th, at 6 A.M., I was called to see Mrs. C——, aged thirty-one, in labour with her third child. The patient on my arrival was in bed, and she informed me that the pains had been severe and of a bearing-down character for two hours, and that the "waters had broken" about the same period. On making a digital examination I distinctly felt a foot presenting, which on more careful examination proved to be the left one, thus assuring me that the breech was in the first position (according to Leishman). The presenting point was not sufficiently advanced for me to conveniently seize it; I therefore administered to the patient a full dose of the liquid extract of ergot, fearing that uterine action might fail, and waited. In thirty minutes more the woman suddenly called on me to assist her. On again examining her, I found, to my astonishment, that a soft spongy mass was in the place which had originally been occupied by the foot; it gradually descended, the pains continuing powerful. By this time I distinctly understood this presenting point to be the placenta, but did not drag or in any other manner manipulate the mass, as in about the time that I am occupied in writing this sentence it was safely expelled through the vaginal orifice, without the slightest hæmorrhage—not more, at any rate, than we daily see in an ordinary case of midwifery.

It has been frequently noticed in these cases that the fœtus, if naturally born, is expelled very shortly after the placenta. This case did not form an exception to a pretty general rule, as the fœtus was born in about four minutes after the placenta. Any fears that I might originally have had for the child's safety were quickly dispelled on my making a careful examination of it. I found that one-half of the cranium was entirely absent—namely, the parietal bones of both sides, also the occipital bone. The frontal bone was much larger than usual, and extended higher up and further back; the sides of the same bone curved gradually inwards, and were attached to the anterior portion of the upper vertebra, the posterior part of the same vertebra having a large axis on which the posterior part of the brain simply rested. The substance of the brain was a dark, putty-like mass, of the consistence of clotted blood; otherwise the fœtus was fairly developed, the various parts of its body being in proportion, and exhibiting the appearance of having been properly nourished. The woman informed me that about the eighth month she was suffering from great mental anxiety, which may, to a certain extent, account for the imperfect development.

Now, the remarkable and very interesting point in the above case is the entire absence of hæmorrhage, a practical question of considerable importance, and one which there is some little difficulty in fairly answering. The death of the fœtus may in a measure reasonably account for this, and naturally bring uppermost in one's mind the question so frequently discussed—namely, the source of the hæmorrhage in placenta prævia; but as this physiological problem is of secondary importance, in a practical sense, at any rate, to the question of how can the absence of hæmorrhage be satisfactorily accounted for, it behoves one to suggest something more than the mere death of the child. Two other points might be considered which, to a certain extent, would account for this fortunate circumstance—firstly, the early administration of the ergot, given not with the view of preventing or arresting hæmorrhage, but simply to assist the uterus in its contractile efforts, failure of the same being anticipated, as I have already explained. It may, however, have providentially acted as a timely hæmostatic. The second cause which forces itself on one's consideration is the probability of some sharp bony promontory acting as a fixed point against which the cord may have been firmly pressed, thus arresting the circulation therein. Whatever may have been the cause, it certainly is a case presenting many interesting points; for, looking at it from another standpoint, it coincides thoroughly with Simpson's words, quoted by Dr. Leishman in his work on Midwifery, where it is said: "Paradoxical as it may appear, there are sufficient

grounds and facts for believing that when the placenta is separated slightly and partially the chance of fatal hæmorrhage to the mother is greater than when the disunion of the organ is entire and complete." I may state in conclusion that the uterus in this case contracted firmly after delivery, the discharge was usual in quantity, and the woman made a perfect recovery.

Troon, N.B.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

UTERINE HÆMATOCELE.

(Under the care of Dr. HALL DAVIS.)

FOR the following notes, which are inferentially conclusive against female accoucheurs, we are indebted to Mr. Macintire, obstetric assistant.

P. W——, the subject of this case, was a young and single woman, aged twenty-one, a brunette of medium stature, fairly nourished, a waitress, and a native of Folkestone. She was admitted Nov. 22nd, 1877, and discharged convalescent Dec. 22nd.

The previous history of her family was unimportant; that of herself was as follows:—Menstruation commenced at the age of seventeen years, but up to April, 1877, her "periods" were irregular, sometimes absent for three or four months, but from April up to the time of the present attack menstruation had been normal. While menstruating, seven days before admission, she was suddenly seized with severe abdominal pain and prostration, and later with vomiting, diarrhœa following shortly after. She soon noticed for the first time a hard swelling in the hypogastrium, very tender on the least pressure.

On Nov. 18th, Dr. Hall Davis was requested by her mistress to see her. Diarrhœa had then ceased, but the vomiting and severe abdominal pain continued. The pulse was small, 130; temperature 102°; face blanched; expression anxious. A solid enlargement, well defined, having a pretty uniform surface, was felt extending from the pelvic cavity up to the navel, and to an equal extent on each side of the linea alba—namely, opposite to the middle of each Poupart's ligament. Vaginal examination presented conditions hereinafter described. The cause of the attack appeared to have been exposure to cold and over-exertion during the menstrual period. Suppositories of morphia, one-third of a grain, were administered as often as required, linseed poultices were applied to the abdomen, and ice was given to suck. Upon this the pain and vomiting subsided, and on the fourth day she was, for better nursing, removed to this hospital.

On admission, the pulse was 108, the temperature 98·8°, and the respiration 36. The urine was free from albumen. The tongue was white-furred, the papillæ prominent. There was an abdominal enlargement as above described—now, however, bearing firm pressure; it yielded no pulsation, murmur, or fluctuation, and was dull on percussion. Vaginal examination detected a small cervix, an enlarged body of uterus, a solid deposit behind the body of uterus and to the left of it, and tender on pressure. On Nov. 23rd the pulse was 120 and the temperature 100·8°. Recurrence of vomiting and pain required a return to the morphia suppositories, of which three were administered before bedtime. Ice and hydrocyanic acid were given every four hours, with soda-water. She was nourished by enemata of beef-tea, egg, and a little brandy. She passed a good night, and on the following morning the vomiting had ceased and the pain was slight. On the 27th the pulse was 96 and temperature 98°. No pain unless when moved. The mass felt per vaginam contiguous to the uterus was softer and less tender; the abdomen also was less tender. From this time there was a steady improvement: although the abdominal tumour had not decreased in size by Dec. 2nd, it was softer. On the 6th the tumour was less, the os uteri was soft and patulous, and a glairy, sanguineous discharge, evidently menstrual, escaped from the uterus. Two days later the abdominal tumour was still softer, its upper boundary being three-quarters of an inch below the umbilicus. On the 11th the uterine tumour did not extend higher than an inch and three-eighths below the umbilicus, and its breadth was three inches. By the 18th the tumour had sunk its upper limit to two inches and a quarter below the umbilicus, and the breadth was two inches and six-eighths. She left the hospital, convalescent, for Folkestone.

In February she presented herself for inquiry, when the uterus was found to have become entirely a pelvic organ, and but little larger than normal. She had again menstruated.

Remarks. — The diagnosis and cause of the malady were evident from the history—viz., a rapid enlargement of the uterus, and solid deposit in some of its connexions, occurring in the course of a menstrual period from over-exertion and exposure to cold, an effusion of blood into the cellular tissue of the parts affected being the consequence, accompanied by temporary prostration. The treatment was adapted to the symptoms, the vomiting and the severe pain, due partly no doubt to local pressure by the effused blood, partly also to local peritonitis. The absorption of the effused blood was sought to be promoted by the exhibition of iodide and bromide of potassium, and the application externally of iodine ointments. Complete rest in bed for the requisite period, and removal to the seaside on leaving the hospital, were not unimportant elements in the cure.

ST. MARY'S HOSPITAL.

INJURY OF THE HEAD; PROBABLE FRACTURE OF THE BASE OF THE SKULL, FOLLOWED BY DEAFNESS; RECOVERY; REMARKS.

(Under the care of Mr. JAMES LANE and Mr. FIELD.)

H. M——, aged twenty, was admitted on Dec. 5th, 1877. He had fallen from a height of twelve feet, and struck his head against some stone steps. He was picked up insensible, bleeding from the nose and mouth.

On admission, he was partially conscious, but in a state of extreme collapse. There was no wound, and no outward evidence of fracture, but great ecchymosis of left eyelids and also beneath the ocular conjunctiva. He recovered by degrees from the collapse, and then vomited a considerable quantity of blood. When raised from the pillow blood again flowed from the nose. During the night he was violently delirious, trying to get out of bed; but he could understand what was said to him, and would do what he was told. For the next two or three days he lay in a torpid condition, his head buried in the pillow, and his knees drawn up towards his chin. The torpor was varied by occasional fits of restlessness and irritability, and he complained of severe pain in the head. During this period he several times vomited a quantity of blood. There was no paralysis, and no elevation of temperature or other sign of inflammatory action. The pulse was never more than 70, and once was as low as 48. He was now found to be quite deaf in the right ear, and partially so in the left.

The further progress of the case was satisfactory. No other unfavourable symptoms were observed. The drowsiness and headache gradually passed off, so that at the end of four weeks he was able to get up and walk about. He was, however, still completely deaf in the right ear, though the hearing on the left side had much improved.

The treatment pursued was simple. It consisted of free purgation in the first instance, with cold applications to the head, perfect rest, and avoidance of excitement from the visits of friends or otherwise. Afterwards the compound iron mixture was given as a tonic.

In some clinical remarks on this case, Mr. Lane gave the following explanation of what he believed to have taken place. He thought there had been fracture of the anterior fossa of the base of the skull, implicating probably the orbital plate of the frontal bone on the left side and the cribriform plate or cells of the ethmoid, and perhaps the sphenoidal, sinuses. Such a fracture would account for the great ecchymosis in the left orbit and eyelids, and for

the bleeding from the nose and mouth. It would also explain the vomiting of blood during the first few days; for as the patient lay in bed the blood would pass into the pharynx, and be swallowed insensibly and rejected at intervals. This continued oozing of blood through the fracture had, he thought, been of great service in preventing injurious compression, and consequent paralysis, and also in warding off the tendency to intra-cranial inflammation. The head symptoms which were observed depended, he believed, rather on "cerebral irritation" than on either of the conditions just mentioned, and were probably the result of bruising, and perhaps slight laceration, of the brain-substance in the immediate vicinity of the fracture. There was no bleeding from the ear to indicate fracture of the petrous portion of the temporal bone, and so account for the deafness; but he remarked that it was not impossible for such a fracture to take place without rupture of the membrana tympani, in which case there would be no bleeding externally, but effused blood might find an outlet through the Eustachian tube into the pharynx.

The urgent symptoms having all subsided, Mr. Field was consulted with respect to the deafness, of which he undertook the treatment.

On Jan. 2nd the patient was unable to hear the ticking of a watch in contact with the right ear, and, as there were no signs of injury to the membrana tympani, the deafness was thought to be probably due to effusion. Blisters were applied over the mastoid process, and six leeches in front of the tragus. Three grains of iodide of potassium were given three times a day. Under this treatment his hearing gradually improved. On Jan. 6th he could hear the watch five inches from the right ear; treatment continued. In ten days' time he could hear at thirty-six inches, and at the expiration of a month his hearing was restored.

With regard to the treatment of this case by counter-irritation behind the ear, Mr. Field stated, a few words of explanation were desirable. Although Toynbee adopted this practice largely, it has been the custom of late to cast some doubt upon its efficiency, and at first sight it is not very evident how a blister outside the skull can affect such distant and deeply-seated structures. Although the action of counter-irritation is as yet far from being explained by physiological therapeutics, and a cloud of contradictory witnesses have been summoned by writers on the subject, who as yet have only succeeded in obscuring the true interpretation of what appears, at first sight, a simple and very common subject of observation, nevertheless two main facts stand out prominently for our guidance as the result of clinical experience—namely, first, the teaching of ages has shown that, whenever we desire to effect the absorption of effused serum, no remedy is so successful as counter-irritation; secondly, more modern practice has demonstrated beyond a doubt that the application of cold to the surface relieves internal congestion, and is perhaps the best remedy in cases in which we have to combat inflammatory action. Nor are these two facts in contradiction with the great physiological truth first taught by Hilton—namely, that the bloodvessels of the skin sympathise, by means of their vaso-motor nerves, with those of the organs beneath. For we learn clinically that the irritation of a blister on the skin of the thorax produces a similar irritation of the vessels of the pleura, with a change of nutrition in both parts of the same nature but not to the same degree. So also we see the contraction of vessels on the skin of the abdomen brought about by ice-bags, applied in cases of hæmorrhage from the bowel in typhoid fever, produce a sympathetic contraction of the vessels of the intestine. In like manner the blister behind the external ear affects the nutrition of the internal ear. The reason of this is not far to seek, when we consider that the posterior auricular branch of the external carotid supplies alike both the internal ear, by the stylo-mastoid branch, and the external ear, by the auricular; the vaso-motor nerves on each of these vessels being continuations of those on the posterior auricular itself, and therefore branches of one sympathetic plexus. From these considerations the importance of the exact pathological condition with which we have to deal is made very evident: thus while counter-irritation, in a condition in which the absorption of effused serum is required, proves of great benefit in such a case, the application of the ice-bag would be most prejudicial to the patient. Moreover it is commonly observed that intense cold is a frequent cause of nervous deafness. Leeching was recommended in the hope of relieving great turgescence of the bloodvessels of the part, should such a condition exist, with a view of facilitating the action of the blister on the vaso-motor nerves, which might have been otherwise impeded by the over-fulness and consequent mechanical dilatation of the bloodvessels. It is important that treatment should be employed early in these cases, because after the lapse of two months or so hopes of a successful termination are small in consequence of the organisation of the effused products.

NEWCASTLE-UPON-TYNE INFIRMARY.

TWO CASES OF SYPHILITIC PARAPLEGIA.

(Under the care of Dr. PHILIPSON.)

CASE 1.—A. B——, aged thirty-five, single, a goods-guard, was admitted on April 13th, 1877. He stated that for six months he had not been strong, and that upon two occasions he had been compelled to be off his employment from pain in his back and thighs and numbness of the legs. He had noticed, also, that as he walked he did not feel his feet when he placed them upon the ground. Gradually he had become unsteady upon his legs, and three days before his admission he found that he was unable to move his right leg.

His condition was as follows:—He was a muscular and well-formed man, of sanguineous temperament. He was wholly without power of motion in the lower extremities. Sensation was unimpaired. The bladder was distended, and there had been incontinence of urine and inability to retain the fæces. Upon percussing the lower dorsal and lumbar vertebræ, a little pain was experienced. Reflex action was exaggerated; the limbs of themselves jerked, especially during sleep. The pulse was 84, the temperature 98·6° F. The heart was healthy. The urine, when drawn off, was turbid and ammoniacal.

The case was regarded as one of hyperæmia of the spinal medulla and its membranes. He was ordered the liquid extract of ergot in thirty-minim doses, in water, every four hours; the remedial power of ergot over hyperæmia being great, more especially in resuscitating the muscular contractility of the rectum and bladder. He was placed upon water cushions, and a catheter was passed night and morning. His diet was milk and beef-tea.

May 12th.—Very little change had occurred in the motor power. He was still unable to move his legs, and a catheter was still required. He had no power in retaining the fæces. He had complained greatly of pains in the thighs and legs, especially in the evening and night.

The supposition arising that the condition might have a syphilitic origin, he was carefully interrogated, and he admitted to having suffered from syphilis five years ago. Upon examination, the inguinal glands were found to be enlarged.

Regarding the syphilitic character of the case as established, the ergot of rye was discontinued, and iodide of sodium, in ten-grain doses in water, three times each day, was substituted.

On May 26th the power of movement of the lower extremities had decidedly increased; he was able to raise his legs from the bed; the pains complained of had greatly diminished. The iodide was increased to twenty grains.

The improvement gradually increased, and on June 16th he was able to walk round his bed; on June 23rd, to walk across the ward; on June 30th, to walk the full length of the ward; and on July 7th, he walked to the garden for the first time. He left the hospital on July 21st, 1877.

CASE 2.—C. D——, aged thirty, single, a fireman, was admitted on May 10th, 1877. He stated that he had been unable to follow his employment for five weeks, in consequence of difficulty in holding his water, of weakness in his back, and loss of power in his legs. For some weeks, previous to his relinquishing his employment, he had not felt strong; he had suffered from pain in his muscles; he had experienced difficulty in moving his right leg, and subsequently the left; and had also stiffness of his knee- and ankle-joints.

At the time of his presenting himself for admission, he was carried into the reception-room by two friends. Upon examination, it was found that his power of motion of the lower extremities was diminished. When desired to stand he asked to be supported; he then placed one foot before the other, as in the act of progression, but with uncertainty; the difficulty was not increased when his eyes were closed.

His grasp was equal, and his intellect was clear; the voice was hoarse, and the larynx and epiglottis were red and swollen, but there was no ulceration. The heart-sounds were normal.

The resemblance of this case to the preceding one was so great that its syphilitic nature was at once surmised. Upon being questioned, the man admitted having suffered from syphilis seven years ago. The lymphatic glands in the neck were found to be hard, indurated, and swollen. The case was regarded as one of hyperæmia of the spinal medulla and its membranes, syphilitic in nature. He was ordered ten grains of iodide of sodium in water three times each day, and the ordinary common diet.

On May 26th the power of moving the legs and of walking had increased, while the pain in the legs had greatly diminished. The iodide was increased to twenty grains. The improvement gradually increased, and on June 23rd he was able to walk by himself with the aid of one stick; on June 29th to walk round the ward; and on June 30th to go into the garden. He left the hospital on July 7th, 1877.

Remarks by Dr. PHILIPSON.—The symptoms in both cases, speaking in general terms, may be said to have been those of hyperæmia of the spinal medulla and its membranes. When, however, they are more carefully estimated, there would seem to have been a changeableness in their character, that the motory impairment was inconstant and accompanied with an unusual amount of muscular pain, which pain was exacerbated in the evening and night. Furthermore, both individuals were young, in the fourth decade of life, without cardiac lesion, and both had suffered from syphilis some years previously. Hence it may be inferred that degeneration of the spinal cord, from non-inflammatory softening, or from embolic softening, might very properly be excluded, but that the supposition that the spinal disturbance was due to syphilitic influence might be entertained.

The result of the treatment is in support of this view. For, in the first case, although the ergot of rye had been steadily continued for four weeks without any appreciable beneficial effect, yet, when it was discontinued, and the iodide of sodium substituted, improvement commenced, became continuous, and, without other aid, restoration was accomplished; and in the second case, coincident with the administration of the iodide of sodium, an improvement manifested itself, which was progressive, and ended in the re-establishment of motory power. From the beneficial effect of the treatment, therefore, the correctness of the inference that the spinal disturbance was syphilitic in its causation is further established.

Again, the restoration, in both cases, from the paralytic condition, which, it will be allowed, was severe, cannot be supposed to have been dependent upon any considerable anatomical change, but rather upon some disturbance in the circulation, possibly upon thickening of the arterial coats, with a diminution in the calibre of the arterial canals. Upon the correctness of this supposition the polymorphous, widespread, and changeable character of the symptoms may be explained. It will then be readily understood how severe symptoms may be suddenly manifested, and how, when the difficulties in the circulation have disappeared, severe attacks are rapid in their improvement. For this reason the appropriateness of the administration of remedies which are supposed to have an absorptive influence.

From this consideration it would appear that no single nervous symptom can be regarded as pathognomonic of syphilitic paraplegia, but preferably that motor paralysis of the lower extremities, ascending, without sensory paralysis, accompanied with muscular nocturnal neuralgia, is the combination.

The paraplegia at first sight would seem to remain long at a given point, or to advance slowly, then more suddenly to become worse, amend again a little, perhaps spontaneously, or at least without specific treatment, and again to increase and to pursue its course to absolute loss of motion, reflex action persisting or being exaggerated.

THE annual meeting of the Governors of the Cancer Hospital was held a few days ago, when it appeared from the report that during the past year 318 in-patients and 628 out-patients were under treatment at the hospital. The diminution of income of which the governors complain has not hindered them from making arrangements for the purchase of a fresh piece of land, in order to increase the accommodation provided for patients.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Condition of Skin in Tinea Tonsurans.—Paracentesis of the Tympanic Membrane.

THE ordinary meeting of this Society was held on the 26th inst., Dr. C. West, President, in the chair. It was announced that Mr. Macnamara had presented about twenty works on Cholera to the Society's library, so as to complete its collection on that subject. A paper was read on the histology of tinea tonsurans, by Dr. Thin, in which he arrives at conclusions as to the seat of the fungus being limited to epidermal structures, in accordance with the views of Küchenmeister, but opposed to those of Kuposi. The paper was further valuable as affording a feasible explanation of the occurrence of inflammatory changes, and as explaining also the benefit derived by ordinary irritant methods of treatment. In the discussion, Dr. F. Taylor stated that he was engaged on the same investigation. The second paper was by Dr. Laidlaw Purves, on paracentesis of the tympanic membrane.

Dr. GEORGE THIN's paper "On the Condition of the Skin in Tinea Tonsurans," gives an account of the appearances seen in sections through the entire thickness of the skin of a horse affected with ringworm. The author alludes to the evidence on which the identity of the disease in that animal and in man has been established, and to cases in which the tricophyton tonsurans has been transmitted from the former to the latter. The skin was examined in both the earlier and the advanced stages. The spores of the tricophyton tonsurans are found amongst the most superficial scales of the horny layer of the epidermis. They are found in the cutis only, in the shaft of the hair, and between the shaft and the internal root-sheath. The spores in no instance were found in the root-sheaths, hair-root, or hair-papilla, nor in the connective tissue surrounding the hair-follicles—that is to say, the spores were never found in actual contact with living tissue, the space between the internal root-sheath and the hair-shaft being analogous to the most superficial stratum of the horny layer. The affected hair first bends, and then breaks at a point usually midway between the rete mucosum and the hair-root. This the author attributes to the disintegrated hair yielding to the pressure produced by the normal growth of the air-shaft upwards. The changes found in the tissues of the cutis and rete mucosum are sometimes extensive, and are similar to those found in inflammation, from whatever cause it arises. The spaces between the bundles of connective tissue are more or less infiltrated with colourless blood-corpuscles (pus-cells), the walls and immediate neighbourhood of the bloodvessels being thickly studded with them. Retrogressive changes are found in the nuclei of the cells of the rete mucosum, and at some parts the epidermis has completely broken down, leaving the cutis denuded. In the latter case the surface is found covered with pus-cells. Small localised abscesses are found in the internal root-sheath and in the rete mucosum. The cell infiltration descends along the veins to the deepest parts of the cutis. The author, finding these well-marked inflammatory effects in tissues which contain no vegetable organism, suggests that they are due to irritation, which is produced by the absorption of soluble matter set free during the growth of the fungus. The parasite finds its pabulum amongst effete epidermic structures, and can only assimilate by decomposing them. This theory seems to be the only reasonable one, because the effects produced are far in excess of those which might be expected to follow the pressure attending the distortion of the hair. The incapacity on the part of the fungus to exist in living animal tissues explains the *modus operandi* of the very numerous methods of curing ringworm. Many of the substances applied are simple irritants, whilst the parasiticides in common use are also irritants. Inflammation, when sufficiently acute, cures ringworm, as is shown by the fact adduced by the author, in which a simple wound through a ringworm spot cured the

whole patch. It is thus that the beneficial effect in chronic cases of a continued slight congestion is explained. The author further points out the probable injurious effect on the general health of the continued absorption of the irritating matters produced by the growing fungus.—Dr. F. TAYLOR said that a few months ago he had the opportunity of removing after death a portion of the scalp of a child affected with ringworm. The child had died of cerebellar tumour, and during the last few weeks of its life no treatment had been directed to cure the ringworm. Dr. Taylor was still engaged in the microscopical examination of the skin, and so far as he had gone his results agreed with those of Dr. Thin; when completed he proposed to communicate the details to the Society.—Mr. GASKOIN thought that the results of Dr. Thin's researches justified the prevalent methods of treatment, and especially the performance of epilation in ringworm. — Dr. COUPLAND asked for analogous instances of the growth of fungi-producing materials capable of exciting inflammation.—The PRESIDENT referred to the fact, which he had observed, that ringworm was more prevalent among the children of the better classes than among the poor, ill-fed, and destitute.—Dr. THIN could not offer any explanation of the fact. Certainly the disease was more common in London than in many places. It was not very prevalent in continental towns. He thought that among the well-to-do classes it was more common in thin, pale-faced, fair-haired children. The fungus must assimilate and grow, and, just as in the process of fermentation and putrefaction, there must be some material set free by the growth of the fungus. Dr. Thin added that the best method to prepare the skin for microscopical purposes was, after hardening in alcohol, and making the sections, to place these in water and then in caustic potash. In that way there would be no risk of confounding the spores with the granules in the sebaceous glands.

A paper was then read on the Results of 100 Cases of Paracentesis of the Tympanic Membrane, by Dr. LAIDLAW PURVES. Of the different methods employed—the knife, the trephine, acids, oils, and ointments, pancreatine, and the galvano-cautery—the galvano-cautery, combined with pressure and ointments, is preferred for maintaining or attempting to maintain a permanent opening, but the maintenance of such is exceptional. The frequent repetition of the paracentesis causes a permanent thinning at the spot perforated, which acts to a certain extent in the same way as a perforation. Of eighty-three individuals operated on, forty-six were benefited temporarily or permanently. In cases of tinnitus one-fourth were benefited. In acoustic affection no improvement occurred. Of thirty-nine cases of cataractous drums twenty-three were improved; five out of seven relaxed drums improved. Of twenty-one paracenteses for the removal of substances from the cavity fifteen were benefited. —Mr. DALBY said that, excluding Astley Cooper's practice, the first in this country to advocate operations on the tympanic membrane was the late Mr. Hinton, in 1868. Mr. Hinton published his results of perforation of the membrane in Guy's Hospital Reports, and became perfectly convinced of the harmlessness of the procedure. In 1870 and 1871, Mr. Dalby saw much of Mr. Hinton's practice, and had seen him perform the operation three or four hundred times. His own opinion had, however, changed since then. In a paper "On Non-purulent Catarrh of the Middle Ear," read before that Society more than five years ago, he had pointed out that in many of the conditions in which paracentesis was performed there was no fluid in the tympanic cavity, but either chronic thickening of its lining membranes, or inspissated and altered secretion. In such cases obviously paracentesis could do no good. He believed that in time the membrane would come to be regarded as a protective membrane to the inner ear, and as a ligamentous support to the ossicles in the tympanum.—Mr. C. BROOKE, referring to Astley Cooper's operation, said that in 1817-18 he was the subject of that at the hands of Sir Astley, who punctured the membrane in each ear by means of a sharp three-cornered probe. The operation was done for deafness from enlarged tonsils, and was attended by complete relief, and even unpleasantly acute sense of hearing. How long the openings remained patent Mr. Brooke could not say: many years afterwards Mr. Toynbee found no perforation.—Dr. R. C. BRANDEIS remarked that in his experience paracentesis of the membrana tympani was an operation which, if performed when plainly indicated, was always attended with beneficial results. If it be desired to establish a permanent opening it is necessary to resort to a myringodectomy, or the excision of a portion of the membrane. Not only is the division of the drum membrane serviceable in such cases in which there is a morbid secretion or an obstruction in the normal aeration of the tympanic cavity, but it is called for in cases where there is a disturbance of the natural contour of the membrane, or an anchylosis of the chain of bones, or an impaction of the stapes in the fenestrum rotundum. In these cases paracentesis of the membrane in the posterior inferior quadrant will serve to admit the sound waves directly into the tympanum, whence they can reach the lamina membranacea covering the fenestrum rotundum, and thus reach the labyrinth. The division of the membrane, however, is only of temporary service; it is necessary to maintain a permanent opening if any lasting improvement is to follow. This is best done by introducing a small aluminium cannula, as recommended by Voltolini, a millimetre and a half in diameter, and from six to nine millimetres in length. The great difficulty met with is the tendency of the membrana tympani to throw off any foreign body, and this can best be obviated by a consideration of the configuration of the parts. At the proximal extremity of the external meatus there is a normal depression of the canal, and the distal end of the cannula must rest in this depression, while the other end impinges upon the inner wall of the tympanic cavity, in order to prevent a displacement of the tube. By this means Voltolini succeeded in keeping the cannula *in situ* for fifteen months, while the speaker had the good fortune to achieve the same effect, in another case, during more than seven months. Dr. Purves's paper could only serve to strengthen the good opinion already held of the value of paracentesis of the drum-head by those who have given it a fair trial.—Mr. CUMBERBATCH thought one main point to be borne in mind was the possibility of doing damage to any little hearing the patient might have, and agreed with Mr. Dalby as to the necessity of restricting the operation to cases of fluid accumulation in the tympanic cavity. Before operating the surgeon should consider whether the chances of doing good were not counterbalanced by the chances of doing harm.—Mr. LENNOX BROWNE, speaking of the propriety of making permanent openings in the tympanic membrane, said that it was worthy of remark that in these cases, in which the membrane was perforated as the result of suppuration of the middle ear, the surgeon had the greatest difficulty in closing the opening, whereas when he attempted to render an artificial perforation permanently patulous nature resisted his efforts unless the means he employed set up such an amount of irritation as to lead to suppuration. Mr. Brown was therefore inclined to agree with Mr. Dalby, that perforation of the membrane should mostly be limited to the evacuation of purulent or other accumulations in the tympanic cavity, and also to the class of cases in which Dr. Purves had had the largest proportion of success—viz., those of lax membrane which had been cured by cicatrices of repeated punctures. There could be no doubt that the operation was in itself harmless, and often most beneficial, but all experience went to show that endeavours to make permanent perforations had a tendency to convert a chronic non-suppurative affection into an active suppurative inflammation.

PATHOLOGICAL SOCIETY OF LONDON.

Lymphadenoma and Leukæmia.

THE ordinary meeting of this Society was held on the 19th inst., Dr. Murchison, President, in the chair. The evening had been set apart for the exhibition of specimens relating to diseases of the lymphatic system, with especial reference to lymphadenoma and leukæmia. Dr. Wilks opened the proceedings by giving details of Dr. Hodgkin's work in this direction, and showing the original specimens collected by Dr. Hodgkin. Drs. Greenfield and Gowers followed, the subject of lymphadenoma occupying chief attention. An extensive series of beautifully prepared microscopical specimens was exhibited by Drs. Gowers, Greenfield, Whipham, Mr. Nunn, and others.

Dr. WILKS commenced his remarks by acknowledging the act of courtesy on the part of the President in inviting him to open the subject by the exhibition of the original specimens, collected by Dr. Hodgkin, of the disease associated with his name. Dr. Hodgkin was the first to write

an original paper on this matter, although, as he truly points out, the appearances described must have been met with before. Indeed, Morgagni and others have mentioned cases, and specimens were even brought before the Pathological Society at a time when Hodgkin's paper lay buried in the Medico-Chirurgical Transactions. Dr. Wilks took credit to himself for having unearthed that paper, which is contained in vol. xvii. of the Transactions (for 1832), and is entitled, "On some Morbid Appearances of the Absorbent Glands and Spleen." Six cases are described in that paper, and the viscera from five of these are preserved. Dr. Wilks then gave a brief *résumé* of four of these cases, as recorded in Dr. Hodgkin's paper. The first case was that of a boy, aged nine, admitted into Guy's Hospital, under Mr. Morgan, in 1826. He died of dropsy and peritonitis. There was enlargement of the bronchial and mesenteric glands, and a continuous chain of enlarged lumbar glands occurred around the abdominal aorta and along the iliac vessels. The liver "contained a few tubercles somewhat larger than peas, white, semi-cartilaginous, and of an uneven surface.....The spleen was large and contained numerous tubercles." The second case was that of a boy, aged eleven, under Dr. Bright's care in 1828, with enlarged cervical glands and spleen. The glands in the neck were in the "form of large, smooth, ovoid masses connected together merely by loose cellular membrane and minute vessels; when cut into they exhibited a firm cartilaginous structure, of a light colour and very feeble vascularity, but with no appearance of softening or suppuration." The bronchial, mediastinal, and abdominal glands were similarly enlarged. The spleen was enlarged to "four times its natural size, its surface was mammillated, and its structure thickly sprinkled with tubercles, presenting the same structure as the enlarged glands." The third case (No. 4 in Dr. Hodgkin's paper), a man aged fifty, was under Dr. Addison in 1829, with enlargement of axillary, inguinal, cervical, and lumbar glands. Those in the neck were of soft consistence, and Dr. Hodgkin says that the change seemed to consist in an interstitial deposit from a morbid hypertrophy of the glandular structure. The spleen was greatly enlarged and studded by numerous "small, white, nearly opaque spots." A fourth case (No. 6 in the paper) was of a man aged fifty, under Dr. Bright's care in 1830, with glandular enlargement in axilla, neck, and groins, and also of the mediastinal and lumbar chain. There were "two or three white tubercles" in the liver, but the spleen was unaffected. Dr. Hodgkin then makes some remarks upon the disease, arguing against its inflammatory character, or its being due to any adventitious formation. He concludes: "Notwithstanding the different characters which this enlargement may present, it appears nearly in all cases to consist of a pretty uniform texture throughout, and this rather to be the consequence of a general increase of every part of the gland than of a new structure developed within it, and pushing the original structure aside, as when ordinary tuberculous matter is deposited in these bodies." And with reference to the spleen, which, with one exception, was more or less diseased, he concluded that, "if there be a close connexion between the derangement of the glands and that of the spleen, the latter is a posterior effect, and on this account may not always have been produced when that of the glands or some other disease carried off the patient." It was clear, then, that Hodgkin saw he had to deal with a new disease associated with the malignant diseases; and at the end of his paper he refers to some drawings shown him by Dr. Carswell of a case he had met with in Paris, and which he had called "cancer cerebriformis of the lymphatic glands and spleen." After giving Carswell's description, Hodgkin says: "Although the doctor has employed the term 'cerebriform cancer,' which conveys a ready idea of the texture of the diseased glands, he will excuse my differing from him so far as to regard the affection in this case as distinct from cerebriform cancer." Bright, in his papers on Abdominal Tumours describes the condition of the spleen met with in association with general enlargement of absorbent glands, as pointed out by Hodgkin, and describes it as a form of malignant disease. He gives a drawing of the spleen from such a case (see collected papers, New Sydenham Society, p. 180, fig. 49). In 1853, before Hodgkin's paper had been brought to light, specimens of "fibrinous deposits in the spleen, thoracic glands, &c.," were shown to the Pathological Society by Dr. Markham. The tumours were examined by Drs. H. Jones and Sieveking, as well as by himself, but not found to have any cancerous characters. Dr. Bristowe, reporting on the specimens, corroborates Dr. Markham's view, and says that the condition "seems to be the result of a fibrinous deposit, probably caused by slow inflammatory changes," adding that "certainly there is little evidence, microscopic or otherwise, to induce a belief in its malignant character, and the evidence in favour of its scrofulous nature is scarcely stronger." It was clear, then, that Hodgkin's disease has relations with malignant disease, and upon this Dr. Wilks hoped to hear some further remarks. It must be remembered that our classification of disease is artificial, and not natural, and lymphadenoma might, as he had said, behave just as cancer does, and lead to death by invasion of vital organs. Not long ago he saw a case in which an intra-thoracic growth of this kind had infiltrated the chest-wall, and led to fracture of ribs. He hoped also the relation of this disease to tubercle would be discussed, and he might also ask if it had any relations to lardaceous disease. He thought he had met with some cases which showed an alliance between these two conditions. He hoped also that the discussion would not close before a definite conclusion was arrived at as to the state of the blood in Hodgkin's disease. Virchow, in his Cellular Pathology, had discriminated between leukæmia splenica and leukæmia lymphatica, and Dr. Wilks thought that confusion had arisen between the latter group of cases and those of Hodgkin's disease; for there seemed to be a prevalent opinion that in Hodgkin's disease there was also leukæmia, or at least leucocytosis. But he had never met with marked leucocytosis in Hodgkin's disease. The subject of leukæmia was a large one; but in regard to it he hoped to hear more of a remarkable discovery made last year in University College Hospital in a case under the care of Sir W. Jenner, where the presence of a large excess of leucocytes in the blood coincided with the formation of an abscess, the temporary leukæmia disappearing after the abscess was opened. One thing he would urge was that the definition of leukæmia should be restricted to cases where the white blood-corpuscles abounded in numbers equal to or exceeding the red, and not, as had been loosely stated, when twenty or thirty white corpuscles were visible in the field of the microscope.

Dr. GREENFIELD exhibited specimens from several cases of Hodgkin's disease, leucocythæmia, and local lymphadenomatous growth, of which he also showed microscopic specimens and drawings. He related some particulars of five cases of Hodgkin's disease from which the specimens were taken. In the first case, a man twenty-six years of age, the disease commenced in the cervical glands on the left side, apparently after an attack of eczema, the glands at the root of the neck and the axillary glands being the next involved. During life there was great enlargement of cervical and axillary glands on both sides; none of the inguinal. The spleen was greatly enlarged, and there was marked cachexia, with high and irregular temperature. Death was due to asphyxia. The spleen was very large, typically infiltrated, the mediastinal and abdominal glands greatly enlarged. The second case was that of a boy, twelve years old, in whom the disease began in the glands on the left side of the neck, then in the left axillary glands; later, those in the right neck and axilla and in both groins enlarged. Here also the temperature was very high and irregular in the latter part of life. The spleen was found enlarged, typically infiltrated; there were growths in the skin of the chest, the liver, and the lung, in the latter organ resembling grey granulations; the thymus was enlarged, and the glands in the mediastinum and along the spine were implicated. The third case was that of a man, twenty-two years old. The glands of the neck were first affected, then the mediastinal. The spleen was very greatly enlarged, typically infiltrated; the other organs unaffected. In the fourth case the inguinal glands on the left side enlarged three or four months before admission in a man sixty-four years of age. There were tumours over the left side of the sternum observed during life. After death a very large mass of enlarged glands occupied the left groin and extended upwards along the left iliac vessels and the aorta, the right inguinal and right iliac glands being almost free from enlargement. A mass of enlarged glands surrounded the vena cava inferior, which at one point was infiltrated,

a nodule projecting into its interior. The glands in the anterior mediastinum were greatly enlarged, and formed a tumour, which invaded the thoracic wall and infiltrated the pectoral muscles. There was also infiltration of the pleura; the cervical glands were unaffected. The spleen was much enlarged, firm and dark, but had none of the peculiar infiltration. The fifth case was a man thirty-three years of age. The glands under the left ear were first enlarged; the disease extended downwards into the posterior triangle of the neck, but the axillary and inguinal glands were not involved. Abdominal symptoms, due to infiltration of the peritoneum, then set in. This was found to be in appearance very similar to tubercular peritonitis; there was no enlargement of the spleen, but some infiltration of the pleura. Dr. Greenfield next described the microscopic characters of the change in the organs, which he had examined in eight cases. As to the lymphatic glands, they were in nearly all the cases more or less confluent, united by dense fibrous tissue when the disease was advanced. In the earlier stages they were often vascular, swollen, and soft, but there was a tendency to rapid fibroid change, and in many cases to some caseation. Microscopically the change consisted in an hypertrophy of all the elements of the gland, but with especial tendency to overgrowth and induration of the reticular tissue, which gradually invaded the entire gland, and converted it into a mass of fibrous tissue. During the evolution of the process he pointed out that a large number of multinucleated cells were usually present, these being adherent to the trabeculæ, and apparently concerned in the production of the induration. He had examined the spleen in eight cases: in one it was unaffected; in two it was considerably enlarged, but had only the characters of simple chronic hypertrophy; in five there was the typical infiltration, as described by Dr. Hodgkin, in some in an early, in others in an advanced, stage. When at all advanced the spleen appeared to be pervaded by bands of fibrous tissue, some looking like sections of tendon; but by examining earlier stages their modes of evolution could be observed. The growth commenced by an overgrowth of the lymphatic tissue around the arteries, forming at first branching masses, in the centre of each of which an artery could be seen. The growth extended outwards into the splenic pulp proper, invading it and leading to its gradual destruction. The lymphatic overgrowth presented usually the same tendency to rapid fibroid induration, and similar masses of giant cells to those seen in the glands; but there was often marked pigmentation of the masses of new growth, especially near their margin. The liver was only affected in two cases; their examination showed growths which appeared to start in branches of the portal canals, and around the vessels, surrounding and compressing areas of the liver tissue, which underwent rapid caseation. The growth itself was similar to that elsewhere. In examining the capillaries close to the spreading new growth, Dr. Greenfield found that they were frequently almost blocked by protoplasmic masses due to the swelling of the endothelium of the vessels, and both in the liver and spleen the growth appeared to him to be possibly at the expense of the vascular endothelium. He pointed out also that the liver-cells in the neighbourhood of the new growth showed well the appearance of so-called vacuolation, which had been described as taking part in the spread of new growth, which, however, appeared in this case to be only fatty degeneration. Dr. Greenfield showed also specimens from a case of leucocythæmia in a child five years of age, in which there were hæmorrhages in the subcutaneous tissue, the kidney, and other organs. There was also an infiltration of the liver, which formed a continuous pale network around the lobules. Microscopic examination showed that the apparent growth in the liver and kidneys was merely due to plugging of vessels with leucocytes, and extravasation of them into the tissues; and that there was a marked contrast between these and the true growth in lymphadenoma. As to the relations of lymphadenoma with leucocythæmia, he had examined the blood in nine cases, making, with four of the cases related, in which it was carefully examined by others, thirteen in all. In some of these he had been able to examine it at intervals several times. In only one was there any obvious increase of white corpuscles. In all the cases the blood presented the usual characters seen in great anæmia; in two cases there were small rounded red corpuscles (microcytes); but in both of these the temperature was very high. In the one case in which there was a marked increase there was high and irregular temperature; and he had since found much greater increase in cases of suppuration and of pyæmia, so that it could not be called leucocythæmia. One other point to which he would refer was the temperature, which he had been able carefully to watch in several cases, from some of which he showed charts. He had found that even at early stages, though there were long periods of normal or subnormal temperature, there occurred from time to time some irregular pyrexia; that in the later stages there was very often a very irregular and high temperature, or that it might be elevated at some time of the day only. In the most marked cases there were periodical attacks of fever in the cachectic stage, either of hectic type, or with considerable elevation for a few days at a time and then an intermission. This was especially seen in those cases in which there was marked infiltration of the spleen. Dr. Greenfield held that certain cases of lymphadenoma were merely local more or less malignant growths, resembling lymphatic cancer; but that the typical Hodgkin's disease was at first essentially local, consisting in an irritative overgrowth of some normal lymphatic gland tissue, which became infective, invaded the adjacent lymphatic glands, and spread by continuity of infection to other glands, and later to other organs, especially the spleen; that the growth alone was not sufficient to characterise the disease, but that the combination of this with the peculiar anæmia and cachexia, with rise of temperature in the cachectic period (these being possibly linked by the splenic affection), were essential factors in the definition of Hodgkin's disease.

Dr. GOWERS had brought two patients who illustrated two forms of lymphatic disease. The one was a man with a large tumour in the upper part of the thorax and enlarged glands in the neck and axilla. There was a slight degree of anæmia, and an excess of white corpuscles in the blood—viz., from sixty to seventy in the field of the microscope. The other case was that of a girl, with enlarged glands in the neck and axilla, the case being a chronic one. Both patients were taking phosphorus, and, as the charts he handed round showed, there was in each an increase produced in the number of red corpuscles. He exhibited some of the blood in the hæmacytometer in the other room. He also showed some microscopical preparations from cases of lymphadenoma and of leucocythæmia. The growths in the spleen in the case of lymphadenoma were apparently periarterial, and presented no pigment, while in the splenic pulp much pigment had accumulated. These facts pointed to the origin of the growths in the Malpighian follicles and periarterial tissue, as Dr. Hodgkin had, indeed, suggested, and corroborated the idea of Malpighi that the follicles have a more intimate relation to the lymphatic system than the splenic pulp. The change in the spleen in leukæmia was asserted to be an overgrowth in the splenic pulp itself, before which the follicles atrophy; but it had recently been asserted by Biesiadecki that it was due to a diffuse growth from the Malpighian corpuscles, before which the splenic pulp atrophies. In advanced cases it was certain that the Malpighian follicles could no longer be traced, but from these the question could not be decided. More light was, he thought, to be obtained from an examination of the spleen in cases intermediate between two forms of disease, in which there is an initial gland disease (lymphadenoma) and enlargement of the spleen without growths. In these, as in a section shown, the Malpighian bodies were still distinct and sharply limited from the splenic pulp, and on the increase of the latter the enlargement evidently mainly depended. The follicles, moreover, had undergone lardaceous degeneration from which the pulp was free. (In a spleen presenting marked growths there was also lardaceous degeneration of some of the growths.) The prevalent idea that the splenic pulp is overgrown in splenic leucocythæmia is thus, he thought, borne out by these specimens. Dr. Gowers had found that out of 97 post-mortem examinations of cases of lymphadenoma, 57 (or 60 per cent.) presented growths in the spleen; in 20 per cent. the spleen was normal, in 20 per cent. it was simply hypertrophied. Dr. Gowers showed also sections of lymphatic glands in lymphadenoma. They presented in the early stage an increase in the lymphoid cells, and also in the stroma; in the later stages a great increase in the latter, which formed broad, imperfectly fibrillated bands, most abundant near the arteries, around which they formed concentric layers, somewhat like the periarterial growth in the spleen. He also showed growths in the liver from a case of splenic leucocythæmia, in which was a well-marked stroma. Pausing to consider the question of the relation between the various members of the lymphatic diseases which had of late been grouped together,

especially in France, under the head of "lymphogenic diathesis," Dr. Gowers said that it was certain there existed intermediate forms from pernicious anæmia with bone changes on the one hand, by splenic leucocythæmia with bone, and lymphatic gland disease, by lymphadenoma or Hodgkin's disease, in which allied visceral changes were met with, to simple visceral growths, and that each might be with or without an excess in the white corpuscles of the blood. There were, however, broad distinctions between the more pronounced forms, which justified their separation under distinct heads. Dr. Gowers then entered into several interesting etiological questions, such as the connexion between ague and splenic leukæmia on the one hand, and general glandular disease on the other, basing his conclusions on a comparison of 154 cases of primarily splenic leucocythæmia and 100 cases of primary lymphatic gland disease. As to sex, he had found that two-thirds of the cases of primary splenic disease occurred in males, but three-fourths of primary gland disease in males. He contrasted also the mortality at different ages, as shown in the following table:—

	Splenic Leucocythæmia. Per cent.	Primary Glandular Disease. Per cent.
Under 10 years	4	16
Between 10 and 20 years . .	10	14
,, 20 and 30 ,, . . .	23	20
,, 30 and 40 ,, . . .	30	14
,, 40 and 50 ,, . . .	23	5
,, 50 and 60 ,, . . .	9	22
,, 60 and 70 ,, . . .	4	7
,, 70 and 80 ,, . . .	3	3

The mesenteric glands, which were most frequently affected in splenic leucocythæmia, were the glands least frequently affected in the primary glandular disease. In 4 per cent. of the cases of primary glandular disease and in 25 per cent. of splenic leukæmia there was a history of intermittent fever or residence in an ague district. There were two opinions held as to the occurrence of glandular enlargement in splenic leukæmia, the first being that of Virchow, who states that the glands enlarge from a like change in them as in the spleen; and the other that their enlargement is simply due to the accumulation and retention of white blood-corpuscles in them. But the occurrence of the gland change bears no relation to the degree or duration of the excess of leucocytes in the blood, as it should if the latter view were correct. Lastly, speaking of nomenclature, Dr. Gowers thought that the term "Hodgkin's disease" had only received limited acceptance. It was not used on the continent, where "adenie" or "lymphadenoma" had been employed to denote the general disease. He would suggest, however, that "lymphadenosis" should be applied to the general affection, restricting lymphadenoma to the growths themselves.

In reply to the President, Dr. GOWERS said in one of his cases of lymphadenoma there was a slight excess of white corpuscles in the blood, and in other cases on record a much greater excess. One such case was recorded by Dr. Stephen Ward, in which each field of the microscope contained 200 white corpuscles, and the spleen post mortem was normal.

CLINICAL SOCIETY OF LONDON.

Removal of Piece of Iron from Lens by means of a Magnet. Hæmorrhagic Retinitis.—Two cases of Pleural Effusion.

THE ordinary meeting of this Society was held on the 22nd inst.; Mr. Callender, President, in the chair. An interesting case of removal of a chip of iron from the crystalline lens by means of a magnet was read by Mr. M'Hardy. Mr. Hutchinson detailed the particulars of retinitis hæmorrhagica in gouty subjects; and two very instructive cases of rapid pleural effusion, one in an old subject successfully treated by aspiration, the other in a young man terminating suddenly in death, were read by Dr. Broadbent. Time did not allow of the adequate discussion of these cases.

The PRESIDENT announced that Dr. H. Donkin had asked for a committee to investigate a case of Recurrent Hyperpyrexia, now under his care. Drs. Sanderson, Southey, and Cayley were nominated.

Mr. M'HARDY read notes of a case of Removal of a Chip of Iron from the Crystalline Lens by means of a powerful magnet. The patient, thirty-one years of age, when at work, was struck in the eye by a fragment of steel from the hammer he was using. When seen, twenty-four hours after, there was evidence of commencing iritis; there was nothing in the vitreous; the eye was less painful than on the night of the accident; its tension normal. Atropine drops were prescribed. The next day there was no pain, and less congestion of the eye; the pupil was well dilated, and allowed of detection of a sharply defined opacity on the anterior surface of the lens in a downward-inward direction from the centre, the peripheral end being nearer to the margin of the dilated pupil. The cornea was almost normal. The atropine was continued, and absolute rest enjoined. The removal of the chip appeared to be imperative lest it should gravitate downwards; at the same time Mr. M'Hardy was unwilling to remove the lens, and he also thought if it were injured by the forceps it would not be easy to tell if any subsequent opacity of the lens were due to the original injury or to the operation. He therefore had a magnetic spatula constructed by Messrs. Weiss, intending to use it in connexion with an electro-magnet. On Mr. B. Carter's suggestion, the procedure was modified by employing a powerful bar magnet connected with two Grove's cells. Gradually approaching it to the front of the cornea, when it was four inches away the chip sprang from the lens to the inner surface of the cornea, and fell into the anterior chamber, whence it was removed, together with a small portion of iris. A patch of opacity exactly corresponding in size to the chip was left on the lens. Subsequently a cataract formed, and the injured lens became absorbed. The patient's vision, aided by a lens of twelve dioptrics, is normal for distant objects. Mr. M'Hardy acknowledged his indebtedness to Mr. Ladd and Dr. Tibbits for assistance and suggestions, and he referred to a paper by Dr. M'Keown in the *Dublin Journal of Medical Science* for September, 1876, where three or four cases are recorded of the use of magnets in the removal of fragments of steel in the eye.—Mr. BRUDENELL CARTER, having seen the case, stated that the position of the fragment was such that any other attempt at its removal would have jeopardised the eye. If nothing had been done, the fragment would probably have fallen below the iris, and would have set up destructive inflammation; and any attempt at its removal by forceps would certainly have injured the lens. By withdrawing it from its bed and bringing it to the front of the iris, the magnet had obviated these difficulties.

Mr. JONATHAN HUTCHINSON described a series of cases of Retinitis Hæmorrhagica in connexion with Gout, and its probable dependence on Thrombosis. He pointed out that the retinal hæmorrhages well known to occur in renal disease were usually secondary to the formation of new material in the retina, so-called albuminuric retinitis. In the class of cases he was considering there was no white deposit, and the hæmorrhages were abundant and early, and were characterised by their flame-shape radiating from the disc. They never occurred in young people, but always past middle life. Usually one eye was affected suddenly. In most cases, if not a direct history of gout, its presence could be suspected. Mr. Hutchinson then showed several drawings illustrative of the affection. One from a man aged forty-four, whose sight had been failing for two weeks; in one eye the retinal veins were swollen, and the fundus was marked by flame-shaped streaks of extravasated blood. The arteries were small; there was no white deposit, and no albuminuria; but there was reason to suspect gout. Jäger figures a well-marked instance in his atlas, in which both eyes were affected. The patient in that case was a corpulent innkeeper, but no information as to gout is given. Another drawing was from a lady seventy-two years of age, seen by Mr. Hutchinson in 1871. She suffered from rheumatic gout. There was no albuminuria, but hyaline casts were met with in the urine. In the left eye were numerous flame-shaped retinal hæmorrhages, and the disc was hazy. From an analysis of fifteen cases which Mr. Hutchinson had seen during the last ten years, eleven were males, four females; the youngest was forty-four and the eldest seventy-two years of age, several being over sixty years. There was direct evidence of gout in six, and a gouty condition was present probably in four or five more; one was associated with lead-

poisoning; one, a male, sixty-seven years of age, with diabetes. In ten of the cases one eye only was affected; in five both eyes. In four of the cases, which were also accompanied by albuminuria, there was white deposit in the retina; and in the four, in which the hæmorrhages did not assume the characteristic flame-shape, both eyes were affected. This group included only well-marked cases with numerous hæmorrhages. Although impossible to separate it from the hæmorrhagic retinitis in renal disease and diabetes, on account of the frequent association of gout with renal changes, still it was different from albuminuric retinitis, where usually both eyes are affected, and where there is a peculiar deposit. The influence of heart disease must also be borne in mind. In one case the attack came on suddenly after stooping; in another the patient went to bed well, but in the morning the retinal condition was established. In one case the heart was very large, and the hæmorrhages took place first in one eye and then in the other. Death eventually took place from cerebral hæmorrhage. The kidneys were found to be hard, red, and granular, with lithic acid in the pelvis. In this case the hæmorrhagic spots were small, and there was no venous engorgement, so that the hæmorrhage may have been arterial. Mr. Hutchinson asked how far gout might be suspected in cases of numerous retinal hæmorrhages without deposit. The hæmorrhages are probably due to an altered condition of the blood itself. They may be due to arterial disease—e.g., small aneurisms, or to venous obstruction by pressure on the veins or thrombosis. The peculiar flame-shaped character of the hæmorrhages probably depends on their occurrence in the nerve-fibre layer; whereas the rounded hæmorrhages, more frequent in albuminuric cases, were produced in the deeper layers. The suddenness of the attack, turgescence of the veins, and smallness of the arteries, pointed to thrombosis in main trunks or branches of the retinal veins. It was not possible to detect the plugging ophthalmoscopically, but it was often difficult to empty the veins by pressing on the eyeball. —Dr. BROADBENT pointed out that albuminuric retinitis with hæmorrhages was by no means constantly met with in renal disease, nor was it limited to any particular form of kidney lesion. Was it a fact that retinal hæmorrhages in kidney disease were more often associated in gouty subjects? Certainly these hæmorrhages were more common with the granular form of kidney. He asked for more characters defining the hæmorrhages described from those met with in cases of cerebral tumour. If Mr. Hutchinson's hypothesis as to their origin in thrombosis be correct, their mode of production would be paralleled by that of the ischæmia produced by swelling of the nerve in cases of intracranial tumour. The condition giving rise to "choked disc" would also cause obstruction of the veins, and the same effects would be produced as in thrombosis of those vessels.—Mr. B. CARTER thought that two of the drawings exhibited illustrated different conditions; for in one there was obliteration of the outlines of the optic disc and flame-shaped hæmorrhages in the fundus, whereas in the other the disc was well defined and the hæmorrhages were round. The explanation given by Mr. Hutchinson of the shape of the hæmorrhages was confirmed by the fact that similar flame-shaped hæmorrhages were met with in albuminuric retinitis, and also by the disposition of opaque fibres of the optic nerve. When the hæmorrhages were flat and expanded, the blood lies probably immediately beneath the limiting membrane. A distinction should be made between venous and arterial hæmorrhage; the former was often met with in retinal hæmorrhages in women at the climacteric period, and he had seen it well marked in the subject of osteitis deformans described by Sir James Paget last session at the Royal Medical and Chirurgical Society. Lastly, before assuming that the hæmorrhage was connected with gout, it would be well if physicians would state precisely what is meant by "gout." He remembered that, some years ago, Dr. Garrod said that gout was indicated by the presence of lithic acid which could be crystallised out of blood-serum. But a mere history of gout from a patient was too vague to go by unless there were obvious gouty phenomena. In the desire to connect local conditions with general states there was a risk of making hasty generalisations on insufficient grounds.—Mr. HOWARD MARSH alluded to the connexion between gout and various forms of phlebitis, as pointed out by Mr. Prescott Hewett and Sir James Paget. In these cases there was a gouty family history, and often a personal history of gout. Another form of venous derangement in gout was plugging of the corpora cavernosa of the penis, which had been described by Prescott Hewett, and lately re-described in America as a "new form of disease of the penis."—Dr. BARLOW had only seen one case of the form of hæmorrhagic retinitis described, but it was interesting in connexion with other forms of hæmorrhage which had been described as occurring in gout; and he asked Mr. Hutchinson whether in his cases he had met with hæmorrhages in other regions. About two years ago Drs. Fagge and Pye-Smith exhibited at the Pathological Society specimens of extensive hæmorrhage into knee-joints from cases of gout, where the hæmorrhage had not been suspected during life. A short time after he (Dr. Barlow) had under observation a young man twenty-five years of age, who was the subject of the hæmorrhagic diathesis, and who was then suffering from renal hæmorrhage. This patient, when twenty-one years of age, developed distinct signs of gout. When under Dr. Barlow's care he had one of his arthritic attacks, lasting two weeks, in the course of which the temperature reached 103° and 104°. Sir Wm. Jenner has shown that effusion, sometimes of blood, at other times of serum, is the cause of the swelling of joints in subjects of the hæmorrhagic diathesis. The patient had also well-marked tophi on the ears, as well as a red tender papule, which seemed to be a tophus in process of formation. The case showed the connexion between the hæmorrhagic diathesis and the gouty condition, pointed out by some German authorities, and also referred to by Legg, who rather disparages it.—Mr. HUTCHINSON, in reply, said he was not acquainted with any definite examples of hæmorrhages elsewhere in connexion with gout; but he well knew of the occurrence of obstruction in the veins in that disease, of which they had been reminded by Mr. Marsh. He had met with a few cases of venous dilatation and hæmorrhage in gouty subjects. He believed the hæmorrhage in renal retinitis to depend on the previous white deposit in the retina, and possibly to occur from pressure on the veins by the deposit. This seldom had any relations with gout. In the cases described there was not in any advanced degree the appearance of choked disc, in none was it woolly or swollen. In cerebral tumour the disc was swollen, and, as a rule, the hæmorrhages were few. As the swelling occurs within the sheath of the optic nerve, both the artery and veins would be compressed. In reply to Mr. Carter, he said that in the drawing referred to the hæmorrhages were really linear, but of such small size as to appear almost punctate. Leaving to physicians to define gout, it would be enough for him to say that he held the gouty condition to mean such derangement in absorption and excretion as led to the accumulation of uric acid in the blood.

DR. BROADBENT read notes of a case of Unusually Rapid Effusion of Bloody Fluid into the Right Pleura, in a gentleman aged seventy-six; paracentesis; recovery. The patient consulted Dr. Broadbent on the 16th of May, suffering from dyspnœa on exertion, which had been gradually increasing for ten days. There was evidence of right pleural effusion; dulness to nipple-level in front and mid-scapular region behind. The next day the dyspnœa had increased, and now there was dulness all over the right chest except a small area below the clavicle. Respiratory murmur was absent, and there was tubular breathing between the scapula and the spine. On the 18th the right pleura was obviously full of fluid, and it seemed that paracentesis was absolutely necessary. Accordingly, on the next day, two quarts of highly blood-tinged fluid were withdrawn by means of the bottle aspirator, a small cannula being used, and only gentle suction employed. A considerable quantity was left behind, but it was thought prudent to stop at this point. The heart, which had been displaced to the left, had regained its normal position. The fluid was highly charged with blood, and the probability of the effusion depending on malignant disease was entertained. The next day the temperature was 102°; the fluid did not again increase, but gradually became absorbed. The patient left town at the end of June. Dr. Broadbent remarked on the advanced age at which the effusion had occurred. He had always considered advanced age as a reason for early tapping, owing to the slowness of absorption and loss of elasticity of the costal and pulmonary structures, as well as the need to preserve the patient's strength. Another point was the rapidity of the effusion, which was unparalleled in his experience. This, added to the amount of blood it contained, all seemed in favour of malignant disease. There was still some impaired mobility of the right side

of the thorax, and evidence of bronchial dilatation. The amount of blood present was in part explained by the rapidity of the effusion. Dr. Broadbent also read notes of a case of Pleuritic Effusion; sudden death without paracentesis. He said that cases of sudden death after ordinary tapping might sometimes be due to rapid effusion. The patient in this case was a young man, twenty-four years of age, with a phthisical family history, who was attacked with pleurisy in the right side at the end of August. For two weeks he suffered from shortness of breath. On September 28th he was seen by Dr. Broadbent; there was evidence of much effusion, and the heart was displaced. There was no paroxysm of dyspnœa, but it was decided to perform paracentesis on the following day. The patient passed a good night, but was attacked by dyspnœa at 6 A.M., and shortly afterwards died. It must be noticed that there was not a single paroxysm of dyspnœa before the final attack, the operation being held necessary because of the rapidity of the effusion. No post-mortem was obtained, but the cause of death was probably thrombosis in the veins of the right lung extending to the heart.—Dr. WHIPHAM mentioned a case similar to the second one, which had occurred in St. George's Hospital two years ago. The patient was under the care of Dr. Barnes for ulceration of the os uteri, and had been in the hospital for a month. Ten days before her death she had slight shivering, but nothing pointing to the pleuritic effusion until two hours before her death, when she was attacked with dyspnœa. Dr. Whipham was able to ascertain the presence of effusion into the left pleura, which was confirmed after death.—Dr. CAYLEY said that Dr. Broadbent's case showed that a patient with his chest full of fluid was in a dangerous condition, and he quoted the case of a gentleman who refused paracentesis and who died suddenly.—Dr. SYMES THOMPSON gave particulars of a case of rapid effusion, which was successfully treated by tapping, and with great relief to the patient.—Mr. MAUNDER said one point of interest in Dr. Broadbent's elderly patient was the origin of the blood; the only explanation offered being the possible presence of malignant disease. Probably this was not the cause, the patient being in good health, and twelve months having elapsed since the operation. He suggested that it might be accounted for as the result of congestion and oozing, from want of tone in an elderly person, and analogous to the accumulations of blood sometimes met with in the bladders of old men, and from which they often recover. With regard to tapping in such a case, there probably would not be two opinions upon the propriety of such a step when a patient's life was in imminent danger from suffocation.—In reply to the PRESIDENT, Dr. WHIPHAM said no thrombi were found in his case.—Mr. MARSH also mentioned an instance of sudden death in pleural effusion. The case was one of dropsy after scarlet fever.—Dr. LEES referred to the case, mentioned by Dr. Clifford Allbutt at the Manchester meeting of the British Medical Association, of a young girl suffering from pleuritic effusion, who, in walking up to Addenbrooke's Hospital, fell down dead before she reached the door.—Dr. BROADBENT having briefly replied, the meeting adjourned.

MEDICAL SOCIETY OF LONDON.

Filaria Sanguinis Hominis in relation to Elephantiasis, Chyluria, and allied Diseases.

AT the meeting on the 25th inst., Mr. Erasmus Wilson, F.R.S., President, in the chair, a paper was read by Dr. COBBOLD, contributed by himself and by Dr. Manson, of Amoy, on Filaria Sanguinis Hominis, clinically considered in reference to Elephantiasis, Chyluria, and allied Diseases. The paper consisted of three parts, of which the first was by Dr. Cobbold, and the other two by Dr. Manson.—Part I. dealt with the question of the priority of discovery. The adult worm was discovered by Dr. Bancroft on Dec. 21st, 1876; Dr. Lewis on Aug. 7th, 1877; Dr. Silva Aranjo, Oct. 16th, 1877; Dr. F. dos Santos, Nov. 12th, 1877. Dr. Cobbold gives these dates unhesitatingly, without, however, in any way wishing to prejudice the question which has already been raised in respect of the identity of the worms found in each case. Dr. dos Santos' find was made in conjunction with Dr. J. de Moura in a case of lymphatic abscess of the arm. Clinically viewed, the case by Dr. Aranjo must be regarded as unique. Not only were adult and embryonic filariæ found in the same patient, but, what is far more surprising and interesting, the patient displayed in his own person several of the disorders hitherto found apart; and he was more than once attacked by one or two of the diseases. He had also several attacks of erysipelas. He experienced a first attack of chyluria three years ago; then attacks of craw-craw commencing a year ago, the latter being attributed to bathing in a particular lagoon. He had a second attack of chyluria six months back, at which time lymph-scrotum appeared, and also scrotal elephantiasis. Dr. Bourel-Roncière pronounced this case to be unique, and attributed nearly all the disorders to the presence of Wücherer's embryonic filariæ. Electricity was employed in the treatment, and, it is said, with excellent results. In the very elaborate analysis and commentary of Dr. da Silva Lima's second memoir (in which also the writer gives full details of Dr. Aranjo's remarkable case) Dr. Bourel-Roncière warmly claimed for Wücherer the supreme honour of all these discoveries, classing together a number of affections hitherto regarded as distinct. With certain limitations, Dr. Cobbold saw no objection to this view of their common origin. Manson arrived independently at the same conclusion. Wücherer would, were he alive, be the last to claim priority to Lewis, Bancroft, and Manson in this matter. — Part II. dealt with the statistics and pathological importance of Filaria sanguinis hominis, and in it Dr. Manson showed that one person in eight of the general population of Amoy were affected with filaria. Several other interesting statistics were dealt with. — Part III. was on the Filaria sanguinis hominis in relation to the explanation and prevention of elephantoid disease. Arguing from the supposition that the mosquito is a necessary element in the perfection of the parasite, the author thought we had an explanation of the limitation of the distribution of elephantoid disease in certain districts. The fact of the greatest interest in this voluminous paper was that the female mosquito sucked up the parasites from human blood. When the mosquito deposits her ova the filariæ are ejected at the same time, and become the means of propagating disease.—The PRESIDENT objected to the manner in which the word "elephantiasis" had been used.—Dr. BANCROFT would call elephant-leg elephantiasis, and would apply the term leprosy to E. Græcorum. His cases in Australia were not so numerous as Dr. Manson's in Amoy. He had examined the blood of thirty lunatics, but had found no filariæ. Enlarged axillary and inguinal glands of a peculiar elastic feel were very characteristic. One case he tapped two or three times, and let out a serous fluid stained with blood. He mentioned a case in which a tumour of the face contained filariæ, and said he could give a list of thirty diseases connected with this parasite.—Dr. TILBURY FOX submitted the four following propositions:—1. Filariæ are very plentiful in the body under various conditions of irritation without any symptom of elephantiasis Arabum. 2. It is very clear that elephantiasis may exist without filariæ. He had had two cases which were both carefully examined after death. 3. Lymph-scrotum and chyluria are frequently found together. 4. Abscess and filariæ are frequently found together. He did not think it had been proved that filariæ had been found in ordinary uncomplicated cases of E. Arabum.—Sir JOSEPH FAYRER thought that the term "elephantiasis" was more applicable to what is also known as "bucnæmia" or "elephant leg," rather than to leprosy. He stated that many cases of lymph-scrotum occur where elephantiasis is also present, and that many chronic ulcerations and tumours are due to the filariæ. He had no doubt the discovery was one of the greatest importance, though one could hardly yet realise that the mosquito is the means of propagating the disease. He did not think that E. Arabum was due to filariæ.—The PRESIDENT asked whether filariæ had been observed in England.—Dr. COBBOLD had found filariæ in the urine of a patient from Natal, who was passing Bilharzia hæmatobia. He thought with Dr. Fox that some of the writers had attempted to prove too much. The facts of the development of this parasite were perfectly clear to his own mind. That filariæ are not found in all cases of elephantiasis does not prove that the latter disease is not caused by filariæ, to which craw-craw, lymph-scrotum, and chyluria are undoubtedly due.

BEST COPY AVAILABLE

Reviews and Notices of Books.

Food Tables. By I. B. LYON, F.C.S., Surgeon-Major, Professor of Chemistry Grant Medical College, Bombay. 1877.

THESE useful tables have been compiled to simplify the construction of dietaries, the valuation of foods, and the calculation of food problems. Although the author modestly states that the tables have chiefly reference to Indian requirements, we venture to think they will prove valuable to all who have to deal with questions of dietetics on a large scale, as a reference to the tables will save much labour and prevent constant recurrence to large treatises and intricate calculations. Part I. deals with the construction of dietaries, and the data required for their formation have been put into a series of tables systematically arranged, so that by their aid, and attention to a few simple rules, anyone may quickly construct a dietary of any required nutritive value. Part II. treats of the valuation of food materials generally, and contains a valuable table of the estimation of food materials when combined with one another—an important point, as no valuation of food materials can be regarded as complete unless cognisance is taken of their value when combined as well as when uncombined. Part III. will be read with interest in the light of recent experience given by Indian famines and at a time when the problem of feeding our starving population in certain mining districts is engaging our attention and taxing our resources. It contains two interesting memoranda on (1) the nutritive value of dietaries required by natives of India while at labour, light labour, and rest; and (2) the dynamic value of the task exacted from native labourers on Famine Relief works. We hope to see in a future edition some calculations regarding the inorganic constituents of the ash of different articles of diet. Physiology is every day teaching us the immense importance these constituents have in carrying on the nutritive processes within the body, and food tables, to be complete, should contain an analysis of certainly typical articles of diet. Parkes is the only author, we believe, that has as yet paid much attention to this subject, but the list he has given might with advantage be supplemented by the analysis of the inorganic constituents of additional articles of diet. Dr. Lyon, however, has given us an extremely useful work, and one on which he must have expended infinite labour. He might have expanded it with advantage to himself into a volume of considerable size, but then its practical utility would have been lost. It is rare to find men so self-sacrificing, but we believe such authors are not without their reward, and that we are learning to recognise the value of quiet, modest work, though not presented to us in the form of a voluminous pretentious treatise.

Natural Philosophy for General Readers and Young Persons. By G. ATKINSON, Ph.D., F.C.S. Second Edition. Longmans.

THIS is an elementary work on natural philosophy, which has too long been lying unnoticed on our shelves. Some years ago Professor Atkinson translated Ganot's Eléments de Physique, which contained a very full exposition of the subject, and the value of which is sufficiently attested by its wide acceptance in every school where physics are taught as a separate branch of education. The present volume has a humbler aim, being intended for the upper classes of girls and boys' schools, and, as the author states in his preface, in its range it may almost be taken to represent the amount of knowledge required for the Matriculation examination at the London University. It is rendered attractive by an extraordinary number—upwards of 400—of woodcuts, and two coloured plates. It treats the subject in the usual way, commencing with the general properties of matter and universal attraction, and passing on successively to hydrostatics, pneumatics, acoustics, heat, light, magnetism, and electricity. We have read many of the sections, and can state with confidence that it is very intelligently written, and well calculated to foster a love for exact science by giving the reader an easily understood and pleasantly told explanation of most of the ordinary phenomena of nature. It should be in every school-boy's and every school-girl's hands.

Annales de Dermatologie et de Syphilographie. Publiées par le Dr. A. DOYON. Tome IX., Nos. 1 and 2. Pp. 152. Paris: G. Masson. 1877–78.

THIS number of a new volume opens with a memoir on Cerebral Syphilis, by Dr. Alfred Fournier. He enumerates amongst the leading cerebral diseases consequent on syphilis—Cephalæa, epilepsy, aphasia, hemiplegia, insanity, general paralysis, partial paralysis, paraplegia, and ataxia, thus evidencing in a very remarkable manner the improvement and development that have taken place in pathological research since Hunter stated, only at the close of the last century, that the brain was one of those vital organs that might be said to be scarcely susceptible of the action of syphilis; and the same statement was repeated, almost *ipsissimis verbis* by Sir Astley Cooper half a century later, and within the last seventeen years by M. Laségue. Now, if we take hemiplegia alone, in subjects under forty not affected with alcoholism or lesions of the circulatory system, it may be regarded as almost certain that at least nine times out of ten it is due to syphilis. The period after infection at which cerebral syphilis is most apt to occur is from the third to the eighteenth year, two-thirds of the cases occurring between the third and the tenth year. He notices that even the most benign attacks of primary syphilis are apt to be followed by cerebral syphilis. The second article is by M. Horteloup on Syphilitic Adenopathy and Lymphitis, and the next by Dr. C. Mauriac on Syphilitic Myopathies, which he treats with mercury and potassium iodide. Lastly, M. Guibourt contributes a good paper on Eczema, in which he remarks that all liniments and ointments are bad, and that the treatment in acute cases should consist of emollient baths, starch poultices, investment of the limb with vulcanised india-rubber, and in chronic cases of the use of arseniate of soda.

The Quarterly Journal of Microscopical Science, Jan., 1878. Edited by Messrs. LANKESTER, ARCHER, BALFOUR, and KLEIN. Churchill.

THE most important paper in this number is Dr. Milner Marshall's account of the development of the cranial nerves in the chick, which he describes as resulting from the formation of a peculiar outgrowth or ridge, the neural ridge. This appears in the re-entering angle between the external epiblast and the neural canal. The process of the development of each pair of cranial nerves is very carefully given, and accords well with Mr. Balfour's account of the development of the spinal nerves in the Elasmobranch fishes. A second valuable paper on a similar subject, "The History of the Embryonic Development of the Teleostian Fishes," is by Professor Edouard Van Beneden, and in this an attempt is made to fix the nomenclature of the early developed cavities and membranes. Mr. C. Tomes describes the Hinged Teeth of the Common Pike. Mr. Sydney H. Vines gives the Homologies of the Suspensor. Professor Ray Lankester contributes an article showing that the Red Vascular Fluid of the Earthworm is a corpusculated fluid. Francis Darwin gives a description of the Contractile Filaments of the Amanita muscaria and of the Dipsacus sylvestris. Lastly, Mr. Dowdeswell contributes a note on Atmospheric Bacteria.

BEST COPY AVAILABLE

THE LANCET.

LONDON: SATURDAY, MARCH 30, 1878.

THE history of science contains the records of comparatively few capital discoveries. One of these is the discovery of the circulation of the blood. For more than two thousand years anatomists and physicians had been contributing little by little to the heap of materials from which the formative and astrictive power of HARVEY'S genius was destined to build the noble fabric which has made his name illustrious and immortal. Although HARVEY added little, if anything, entirely novel, in solving the intricate problem of the movements of the heart and the blood, his lucid perception, his prompt and sure judgment, and his clear appreciation of facts, enabled him to succeed where others had failed. The opinions of the most advanced of his predecessors were at best more or less probable conjectures and guesses, while those of HARVEY were based upon diligent observation, close and accurate reasoning, and ingenious experimentation. But in order to form anything like a correct estimate of the importance and value of HARVEY'S work, it is necessary to take a brief survey of the history of the various doctrines that have prevailed at various times respecting the movements of the heart and the blood.

Physicians of the remotest antiquity seem to have known that in man and the higher animals the blood is contained in a system of tubes connected with the heart, and to have had some notion of a movement of the blood within its vessels. The physicians of China even entertained the idea that the blood and the vital heat circulated through the body once in the course of twenty-four hours, beginning at the lungs at three o'clock in the morning, and ending at the liver. The writings of HIPPOCRATES, PLATO, and ARISTOTLE contain not a few hints of a movement of the blood within its vessels, but the movement is always oscillatory and never truly circulating. Indeed, HIPPOCRATES expressly employs the term *ampotis* (ἀμπωτις), signifying the ebbing and flowing of tides, to denote the kind of movement he supposed the humours of the body to undergo.

HEROPHILUS, ERASISTRATUS, and their pupils of the Alexandrian school, were not wholly ignorant of the structure and action of the heart and the bloodvessels, and of the movement of the blood, although they fell into the prevailing error of believing that the arteries did not contain blood, but air. Even the shrewd and assiduous GALEN, near as he approached the truth, ultimately missed his way. By appeals to vivisection, he showed for the first time that the arteries and the left side of the heart contain blood, as well as the veins and the right side of the heart. He also correctly asserted that the ramifications of the pulmonary artery communicate with those of the pulmonary veins through direct though invisible passages, called anastomoses, and that by means of these communications a certain quantity of blood passes through the lungs from the right ventricle of the heart to the left; but he could not believe that the whole of the blood generated in the liver passed in this manner; and, misled by the uneven appearance of the interventricular septum, he supposed that the greater portion of the blood passed directly from the right to the left side of the heart through innumerable porosities in the septum. This mistake respecting the permeability of the cardiac septum was most unfortunate, and probably postponed the discovery of the circulation many hundred years. Not only did it lead GALEN himself astray, but it barred the way to all further progress for those by whom his writings were long afterwards accepted as absolute and final. During the intellectual darkness that hung over Europe in the ten centuries that succeeded GALEN little or no progress was made in the science of anatomy. The Arabs who, during during the Middle Ages, were the depositories of the knowledge acquired by the ancients, did not contribute anything, because, like the Jews, they respected the laws of MOSES, and accounted it impure and a crime to touch a dead body.

Even as late as the thirteenth century the opinions of GALEN were accepted in all the medical schools with blind credulity. If Nature were interrogated, it was to facilitate the comprehension of the master's words, not to verify his statements. But a better time was fast approaching. At the epoch of the Renaissance in Italy the spirit of free inquiry began to spread, and many material additions were made to the science of anatomy. In 1213 the Emperor FREDERIC II. decreed that every surgeon at the medical school of Salerno should study anatomy for at least one year, and that during each year one body should be dissected. In 1482 the University of Tubingen obtained from Pope SIXTUS IV. a special authorisation to make dissections, although the number of subjects to be used was greatly restricted. Thus MONDINO, who taught anatomy at Bologna at the commencement of the fourteenth century, was not able to dissect more than two or three bodies in the course of eleven years. In spite of this, however, MONDINO'S writings contain the germ of the doctrine of the circulation of the blood. An important advance was made in the early part of the sixteenth century by BERENGER of Carpi, who pointed out the error of GALEN'S statement that porosities exist in the septum of the heart. BERENGER'S opinion was afterwards upheld by VESALIUS, and then by SERVETUS, who was slowly burnt to death at Geneva on Oct. 27th, 1553, at the instigation of CALVIN. SERVETUS alleged in 1552 that the septum is really solid, and thence inferred that the blood in its transit from the right to the left side of the heart passes through the lungs. COLUMBO repeated this same observation seven years later, but did not get beyond this. There was as yet no distinct idea of a systemic circulation.

Of HARVEY'S predecessors CESALPINO was perhaps the nearest to discovery of the circulation of the blood throughout the whole body. Knowing the pulmonary circulation well, he observed the swelling of a vein on the side of the ligature away from the heart, and was led to remark that the general opinion, according to which the blood in the veins had a centrifugal movement, was wrong. But he seems not to have followed up this suggestion by proper experimental investigation, and even speaks elsewhere of a flux and reflux of the blood in the veins. CESALPINO was, moreover, ignorant of the existence of the valves in the veins, which prevent the outward flow of the blood in them. He got a glimpse of the truth, but did not see clearly.

The discovery of valves in the veins by ETIENNE, CANNANI, POSTHIUS, and FABRICIUS AB ACQUAPENDENTE, of the impermeability of the cardiac septum by BERENGER, VESALIUS, and SERVETUS, and of the pulmonary circulation by SERVETUS and COLUMBO, were necessary preliminaries to the long-delayed discovery of the systemic circulation. This glory was reserved for HARVEY, the tercentenary of whose birth will be celebrated on Monday next (April 1st). By a series of simple but ingenious experiments HARVEY solved the mystery of the action of the heart and the arteries, and then inductively inferred the circular motion of the blood. The steps by which he was led to this conclusion are too well known to need recapitulation here. Only one link was lacking to make the chain complete, and this was not supplied until four years after HARVEY'S death. HARVEY had never demonstrated the passage of blood from arteries into veins, although he proved such a passage to be inevitable; but in 1661 MALPIGHI, by the aid of the microscope, demonstrated for the first time the circulation of the blood through the smallest bloodvessels and thereby established the reality of the communication which exists between the arteries and veins through the medium of the capillaries.

As might be expected, HARVEY'S doctrine encountered much opposition, both reasonable and irrational; but the bitter antagonism and the malignity with which a few assailed him soon recoiled upon the heads of their authors, and HARVEY lived to see his doctrine triumph over prejudice and error, and find a place among the order of accepted things.

IT would be difficult to convey to the mind of non-medical readers an adequate idea of the timidness and feebleness of the Medical Bill of the Government. As far as doing what is mainly wanting to be done is concerned, it scarcely pretends to attempt it. It leaves all that to Providence. The legislation is entirely permissive, which is very much like saying it is no legislation at all. It gives power to the examining bodies to do what the authors of the Bill know the bodies consider to be against their interests to do, and which is certainly against their inclination. To crown the absurdity of such mock legislation, the power graciously given to the bodies was given by the Act of 1858. In other words, it has been possessed by the bodies twenty years, and has never been acted upon, though the voice of the profession has been unanimous in wishing them to use it. To pass a Bill to permit the medical bodies to combine to form examining boards is very much the same as passing a Bill to "permit" publicans to close at nine o'clock, or to permit anti-vaccinators to be vaccinated. Such legislation may please a few individuals, who, with a pretence of adaptation to modern necessities, wish to adhere to old ways—may be acceptable to the Scotch universities, of one of which the Duke of RICHMOND is Chancellor, but is highly disrespectful to all earnest men who are striving after a better system of medical education, than which there is nothing in which the public is more profoundly interested. His Grace will probably say, when the Bill is read a second time, that though he has not compelled the conjunction of medical examining bodies, he has conferred additional powers on the Medical Council of framing examination rules to regulate the examination of persons desiring to obtain the double qualification, determining the subjects thereof, the standard of passing, the method of conducting the same, and the conditions of admission of candidates to the examinations. We do not wish to deprive the Duke of RICHMOND and GORDON of any satisfaction with which he may contemplate Clause 14 and the examination rules which it gives the Council power to make. But those who know what the Medical Council is, how it is composed, and what has been its action throughout its history, must know that no rules the Medical Council will be likely to make under Clause 14 will seriously interfere with the individual action of the bodies. This brings us to the other very great defect in the Bill, the absence of any attempt to improve the constitution of the Medical Council by making it representative more of the profession and less of its mere corporations. This is the rock on which the better Bill of the Marquis of RIPON came to grief, and we venture to hope that the Bill of the Duke of RICHMOND will, if not in this respect amended by himself, share a similar fate. So long as the Medical Council is made up of members who necessarily look at medical education from the point of view of the "interests" of the bodies they represent, so long will it be hindered in its work. It is no excuse to say that the Council cannot be enlarged. Room can easily be made by requiring bodies which have outlived their *raison d'être*, or which never had a claim to be represented separately, to elect a conjoint representative. If the University of Edinburgh and that of Aberdeen, which together are educating this session 1250 medical students, can be sufficiently represented in the Medical Council by one person chosen collectively, why may not all the other bodies? *A fortiori*, why may not the Apothecaries' Companies of England and Ireland, and the University of Durham, with its one graduate a year? Surely the most incourageous statesman should be equal to a change of this kind. The proposal would come well from the Duke of RICHMOND, as Chancellor of the two Universities represented by one person. At any rate, the making of this change should be a condition of the passing of the Bill. Our own opinion, expressed clearly in 1870, was that the Medical Council should consist of twelve members and a president—the members to be chosen equally by the Crown, the registered members of the profession, and the universities and corporations. Such a body would, we believe, have done far more and far better work than has been done by the present Council, which is so composed that more thought is taken for maintaining "interests" than for improving methods of teaching and examination. The Bill of the Government simply ignores the demand of the profession to be represented in a Council for the maintenance of which it is highly taxed, and which has more power for good or evil in the matter of medical education than any single university or corporation.

On these two clear grounds—that the Bill does not compel the medical authorities to combine to make conjoint boards, and that it disregards the universal demand of the profession for representation in the General Medical Council—the Bill is to be opposed as failing to do what any Medical Bill is principally wanted to do.

But it may be said the Bill introduces several innovations in medical legislation. It provides for the admission of women to the profession. We leave the ladies to expose the

way in which their claims are dealt with. We shall not be suspected of any partiality towards them and their claims; but we do not like to see even ladies mocked, which is practically the case with them in this Bill. Power is given to the medical authorities under this Bill to grant medical diplomas to persons of both sexes. This, again, is like giving power to a publican to close at 8 o'clock, for it is immediately added, in regard to this new power given to the bodies, "This enactment shall not render compulsory the exercise of that power." A permission is given to do that which it is known will not be done. If the Government think, as they seem to do, and as most of the Corporations do, that it is impracticable and unseemly to examine women, why have they not the courage of their opinions, and why do they not abstain from pretending to meet a grievance which they really neither recognise nor touch?

The Duke of RICHMOND made a great point in his speech, as he does in the Bill, of requiring the double qualification as a condition of registration in the future. If he had provided above all things, as THE LANCET Bill of 1870 did, an efficient single examining board for the whole kingdom, or in each division of the kingdom, he might have been entitled to this boast. But, as matters stand, the requirement really amounts to very little. There are, at the most, two examining bodies in the kingdom whose examination does not include both medicine and surgery, though, by singular injustice, which the Bill will perpetuate, the diploma they grant after a complete examination is onesided. To require a candidate to get a double qualification is practically to require him to pass two identical examinations.

There remain the penal clauses of the Bill. These admit of and require some greater stringency. It is unfair to be piling up provisions for greater stringency in admitting persons into the profession, and not applying a correspondingly severe punishment to persons who deceive the public by pretending to be in the profession. We direct attention, on this subject, to the letter of a correspondent very familiar with the present defects of the law.

There is one feature of the Bill which is obvious on a very cursory glance, and which is most objectionable—viz., the subjection of the Medical Council to the Privy Council. Every scheme has to be submitted to the Privy Council, which may accept or reject it and call for another. If a foreign graduate is refused registration by the Medical Council, he can appeal to the Privy Council, and the latter may order the Medical Council to recognise the medical diploma it had refused to recognise, "and such order shall be duly obeyed." It is not very complimentary to the profession to think that, after twenty-four of its leading members have decided that a foreign degree or diploma is unworthy of recognition, they may be *ordered* by "any two or more" of the Lords and others of Her Majesty's most honourable Privy Council to recognise it, and required to obey the order. We approve of giving power to the Medical Council to recognise good foreign and colonial degrees. But we hope that the Council will not be submitted to the indignity of registering a diploma which it does not think should be registered. It must protect itself. It would best do so by submitting to such a change of constitution as to raise it above all suspicion of interest.

There are two innovations introduced by the Bill which must be noticed, and which we are not prepared to oppose, but which should scarcely find a place in an amending Medical Bill. One is the creation of a class of dentists by giving the General Medical Council power, "if they think fit," to submit to the Privy Council a scheme for the examination, licensing, and registration of dentists. The other innovation is the power given to the Medical Council to submit to the Privy Council a scheme for the examination, licensing, and registration of midwives. We regard the institution of a class of dentists, as distinct from fully-educated medical men, as a doubtful, and perhaps a retrograde, step. Woe to dentistry if it is divorced from medical culture. We have pleasure, however, in the course of an article full of just complaint, in admitting the care with which the Government have inserted clauses which, with a slight amendment expressly prohibiting the use of such terms as "surgeon-dentist," "dental surgeon," and "surgical practitioner," by men who are not medically qualified, will protect the rights of registered and fully-educated practitioners. It will be but fair to secure that the Register of Dentists shall be distinct from that of medical men. We gladly admit, too, the propriety of the clauses creating a class of examined and registered midwives. We have long advocated such a course, which is urgently indicated by the present ignorance of most midwives. But we cannot see that either of these provisions should have been made in a Bill amending the Medical Acts. The Medical Acts are for developing the education of the medical profession. The Medical Council has work enough in hand in this one thing. It should be spared the additional duty of looking after midwives and dentists. There is scarcely an accoucheur in the whole Council, nor is there a member in it whom the Lord President would trust to extract his tooth.

Practically, our serious conclusion is this, that the care of providing and supervising examinations for dentists and midwives should be given to new bodies—at any rate, not to the Medical Council; that the other parts of the Lord President's Bill should be at once abandoned as being both disappointing and inadequate; and that, before any further attempts are made to amend the Medical Acts an inquiry into the whole subject should be made by a Royal Commission. The subject is far too urgent and too complicated to be dealt with in this permissive way.

THE educational aspect of hospital work has been too long disregarded or treated as a purely subordinate purpose of institutions established for the relief of the sick poor. This is a mistake. If the value of instructional enterprise is not fully recognised by the public who support hospitals, there is the more reason why this important view of the object to be accomplished by the service of charitable institutions should be brought directly under general notice. The scientific study of disease in all its manifestations and the training of those who are to treat it remedially are objects in which the whole community has a vital interest. The pursuit of medicine as an art is not a mere craft which may be left to be learned by its professors without public interference or concern. This is acknowledged by the framing of Acts of Parliament to ensure the efficiency of medical education. The time has come when it is not only permissible, but expedient, to discuss the question of hospital teaching in the

hearing, and so far as may be possible with the aid, of lay wisdom. Let us then state the need plainly, and invite the co-operation of those who take a practical interest in the support of hospitals from the educational standpoint.

It has been asserted that there are too many medical schools in the metropolis. If by that statement it is implied that the accommodation for students is greater than their number requires, we cannot admit the proposition. Meanwhile it is not to be gainsaid that the number of small institutions for teaching purposes is an evil of which both teachers and pupils have daily experience. It is doubtless expedient that there should be small institutions in suitable districts for the reception and treatment of cases that do not admit of removal to the larger hospitals, but there is no valid reason why these should be erected into schools for the teaching of science. The multiplication of small schools with inadequate resources and appliances is not an advantage, but, as we have said, an evil. The inconvenience of the arrangement stands confessed on the face of the system, and no words are needed to expose its demerits.

The remedy for this error is not far to seek. The adoption of the University system would put an end to all the inconvenience, and pave the way for reforms as advantageous to teachers as to pupils, with a commensurate gain to the community. For example, there can be no question that more real work could be accomplished with the same funds if, instead of being dispersed over a large number of small undertakings, the business of training physicians and surgeons were concentrated and carried on in a few collegiate institutions organised with a distinct view to the efficiency of instruction. The collateral advantages to be gained by this gathering together of the disjointed efforts now made for the advance of science would more than compensate for any loss of prestige of which the smaller hospitals and their teachers may at the outset stand in awe. The appointments at the lesser hospitals which had ceased to be schools might be regarded as stepping-stones to the professorial chairs, and these would be so much better supported that the prize would be more eagerly sought for and better worth having when obtained. Possibly one of the earliest consequences of the change would be the rise of a race of teachers who should regard the business of instruction as a serious enterprise. This is much needed in the metropolis, and it is an integral part of the University system not to be gained without its adoption. Collateral advantages as regards the accommodation of, and provision for, students will at once suggest themselves. London has in its midst one of the largest and most important examining universities in the world, and there exists no sort of provision for the training of students for its degrees. The work done by the many schools in the metropolis and elsewhere, in regard to this University, is purely private. It would seem a wise, and it is certainly a necessary, task to organise this voluntary effort so that it may more effectually meet the requirements of the situation. The London University is not, and it would not be possible to convert it into, a teaching institution, but that is the greater reason why a systematic effort should be made to meet the social and scholastic needs of the many young men who annually come to reside in London, in order to be near the place of examination. If the several authorities now engaged in the work of medical training in the metropolis could be induced to enter into serious conference on this important subject, and if they would take into their confidence some at least of the more prominent supporters of hospitals, we have no hesitation in predicting that a facile solution for the problem we have tried to state might be found, which would preserve the vested interests of the several smaller schools intact, and effect a large measure of reform, the outcome of which would more than compensate for the trouble of facing a considerable, but not overwhelming difficulty.

IN our issue of Feb. 9th we ventured to suggest that the conclusions which were drawn by some of our contemporaries as to the alleged ill-treatment of the convict CHARLES M'CARTHY in Chatham Convict Prison would require great modification when the full evidence bearing on the case was forthcoming; and in some remarks thereon we pointed out the necessity of a medical assessor being joined with Sir JAMES INGHAM in making the inquiry which the Government had most judiciously ordered. The report of Sir JAMES INGHAM, and the evidence on which it is founded, are now before us, and fully justify the course adopted by the authorities. Dr. HENRY PITMAN accompanied Sir JAMES INGHAM, and his opinions are of the utmost value in forming any decision on the merits of the case, and, we suppose, will hardly be passed over without some consideration from even Mr. O'CONNOR POWER, who specially attended the investigation on behalf of the political friends and relatives of the deceased. From a letter written by the latter gentleman to Sir JAMES INGHAM during the inquiry, and which is published with the report and evidence, as well as from a remark in the House of Commons during the discussion on the Mutiny Bill on the 26th inst., we anticipate, however, that the whole question will be again brought forward by him.

CHARLES M'CARTHY was convicted on June 14th, 1866, and sentenced to penal servitude for life, for not having given notice of an intended mutiny of which he was cognisant. He was a colour-sergeant in the 53rd Regiment, and by occupation a tailor. He was 5 ft. 9 in. in height, stout and in good condition, but had formerly suffered from an attack of rheumatic fever, although this is somewhat doubtful. During 1866 and 1867 he spent short periods of his sentence at Pentonville, Millbank, Chatham, Portsmouth, Dartmoor, and Portland. He remained at the last-named prison until May, 1870, when he was again removed to Chatham, and was detained there until his release on Jan. 3rd, 1878. He stayed in London until the 12th, and then left for Dublin, where he attended a reception demonstration, and addressed a large and excited audience. On the morning of the 15th he died suddenly at Morrison's Hotel, before the medical men who were summoned to his assistance could reach him. On post-mortem examination, disease of the heart was found, and his death was stated to have been accelerated by the severity of his treatment whilst in prison. The important lesions were—deposits on the aortic valves, dilated cavities, fatty degeneration of the walls of the heart, and double hydrothorax.

We do not purpose to discuss the general question of the severity and propriety of the discipline enforced on political

prisoners, but merely to consider the medical bearings of M'CARTHY's special case. The chief allegations against the authorities were—(1) That he was put to excessive labour; (2) that his food was insufficient; (3) that the ventilation of his cell was defective; (4) that his sleep was unnecessarily disturbed; and (5) that the nature of his disease was not properly estimated by the medical officers of the prison. With regard to the work and the ventilation of the cell, both Dr. PITMAN and Sir JAMES INGHAM are satisfied that there was no reasonable ground for complaint, and Dr. PITMAN further writes that he should have selected, *on medical grounds*, the cell in which M'CARTHY passed the last eighteen months of his prison life, in preference to one with an open window. We may point out that this cell received its air from the common hall of the block, and that the foul air passed out by a ventilating shaft in the roof. He had been removed from an ordinary cell because it was feared that an attempt at escape might be made by him, as about this time another Fenian convict, O'BRIEN, had been detected in the removal of some bricks from the wall of a cell, and some Fenian prisoners had just escaped in Australia. The amount of food was considered by Dr. PITMAN to be ample, and the fact that M'CARTHY gained in weight whilst at Chatham is of itself proof enough on this point; moreover, the statements of his fellow-prisoners, who were released at the same time, were not quite true in this respect. With reference to the complaint of his sleep being disturbed, it is difficult to understand how proper surveillance could be maintained unless the doors of the cells were frequently tried during the night, in order to make quite sure of their being securely fastened, and a prisoner would soon get accustomed to this. His medical history was briefly as follows:—In November, 1873, and again in December, 1874, he was admitted to the hospital for bronchitis, and his heart was examined on both occasions, and no evidence of its being affected was found. In January and in June, 1875, he was admitted, complaining of pain in the left chest and cough, and his pulse was found to be irregular. His heart was examined, and a bruit was detected at the base. In addition, the heart's action was very disturbed, and he complained of severe pain over that region. On both occasions he was discharged "relieved," after about a month's treatment. He was frequently re-examined, and it is evident that the medical officers were thoroughly familiar with the nature and severity of the malady. At the inquest in Dublin it was stated by Dr. KENNY that M'CARTHY for two years before his liberation was not in a condition to perform "any kind" of hard labour, and by Dr. O'LEARY, that he was "utterly unfit to undergo prison discipline." We are sorry that medical men should, under such circumstances, indulge in statements which can only stir up and increase bad feeling. Not only the medical officers at the prison, but Dr. PITMAN also, were of opinion that the tailor's work, and the work of an orderly, are very light, and such as could be well done by the deceased. The last-named physician, whose care, disinterestedness, and judgment are well known, and will have great weight with the profession, adds, as the result of this investigation, that "the regular and tranquil life of the deceased in prison was calculated to alleviate his disease, and that he might have lived some years longer if he had not been set at liberty." Certainly his not complaining of anything but trivial and passing ailments, after his attack in June, 1875, and his increase in weight, afford every reason for such a conclusion. M'CARTHY was warned by Mr. OWEN, a practitioner in Bethnal-green, whom he consulted after his discharge, to take especial care against any excitement; but even in this evidence Mr. O'CONNOR POWER is not disposed to place much confidence. Before concluding, we would only observe that the remarks of the latter, that M'CARTHY had not enough respite from labour, because he was not kept in the hospital until "cured," but was discharged when merely "relieved," betray an utter want of grasp of the medical bearings of the case, for this one fact is of the greatest importance in proving that the medical officers were thoroughly acquainted with the disease. Indeed, if they had discharged the man as "cured," there would have been some reason to distrust their care in diagnosis and treatment. We are sincerely glad, in the interests of the prison authorities, and especially of the medical officers, whose daily duties are so onerous and so ill-requited, that this inquiry has been held, and that it should have so emphatically shown on how little foundation serious charges of neglect and of want of due attention are sometimes made. Such charges cannot always be so effectually disproved, and we therefore are the more gratified, inasmuch as any doubt on the point would reflect principally on the medical staff, that Sir JAMES INGHAM has been able to arrive at such positive conclusions as "that the death of the deceased was not hastened by his treatment in prison, and that the deceased was treated with as much leniency as was consistent with penal discipline and the precautions which became necessary to prevent his escape." Any attempt to exalt M'CARTHY into a political martyr is now rendered impossible.

Annotations.

"Ne quid nimis."

A RABID DOG.

THE public alarm which the late outbreaks of hydrophobia occasioned has elicited a great increase in the vigilance of the police concerning stray dogs. It is probably to this cause that we must attribute the remarkable cessation of rabies in the metropolis. But that the danger is dormant only is sufficiently proved by a recent occurrence at Windlesham, near Bagshot, where a rabid dog succeeded in biting five persons before it was destroyed. We are indebted to Dr. Stafford, of Bagshot, for some particulars of the occurrence. The dog was a cross between a St. Bernard and a collie, and on the morning of the 17th inst., after tearing its kennel to pieces during the night, it broke the chain that held it and got loose, attacked a boy, biting him in the forearm, and made its way along the turnpike-road. There it met a little girl, and bit her upper arm, almost making the teeth meet. It then met a boy carrying a milk-can, and bit his finger. The lad was then thrown down by the dog and bitten on the head. After an attack at Dr. Stafford's, in which he was repulsed, he entered a cottage and bit a woman in the breast, and afterwards killed two hens. He then attacked a woodman, who grappled with the animal bravely, and after a struggle, in which he received twelve scratches, succeeded in transfixing

it with a pitchfork. Many of the bites the dog inflicted were fortunately through clothes. All were washed and made to bleed, and treated with strong ammonia dropped to the bottom of the wound. It will, however, be a better result than has followed most local applications if all the bitten persons escape. It is most desirable that, if any cases occur, a thorough trial of curara should be made. It is remarkable that this supposed remedy does not seem to have been tried in any case in this country since its alleged effects became known. No doubt this is in part due to the difficulties which attend its efficient use. A remedy which may require at any time the establishment of artificial respiration is evidently one the use of which in sufficient doses presents many difficulties to the country practitioner. For this reason it is, we think, of the highest importance that, if any cases occur from the Bagshot bites, they should be sent up to a London hospital for treatment, in order that a remedy in support of which such strong evidence has been given may be efficiently employed.

LOCAL HEALTH SELF-GOVERNMENT IN HACKNEY.

A RECENT sharp outbreak of diphtheria in Upper Clapton has directed public attention to the unsatisfactory sanitary organisation of the metropolis, as exemplified in the Board of Works District of Hackney. The outbreak, which resulted in an unknown number of cases of, and four deaths from, diphtheria, has been attributed by a considerable number of local medical practitioners to the noxious emanations from a huge heap of dust and house refuse which has recently been deposited by the local board on the Craven estate, near Clapton Common, to be used for road making, &c. Dr. Tripe, the Hackney medical officer of health, on the other hand, has reported to his sanitary authority that this store of refuse "could not have been the cause of the outbreak," and that after careful investigation he is satisfied that the outbreak was due to the escape of sewer-gas into the houses affected, in consequence of defective drains and fittings. There appears to be the usual amount of contradictory evidence bearing upon the causation of the outbreak of diphtheria in this locality, which may have been due to either or neither of the causes to which it has been assigned. There can, however, be no difference of opinion as to the unwarrantable and dangerous nuisance to which the residents of the salubrious and favourite residential neighbourhood of Upper Clapton and Stamford Hill are being subjected by their so-called sanitary authority, the Hackney District Board. The local board is reported to have entered into a contract with the builder on the Craven-park estate to receive the dust and refuse of the entire parish, and as the result of this contract a daily-increasing amount of this refuse, amounting already to many thousand loads, is being collected and heaped on the hill-side of Clapton-common; the heap, moreover, is said to be accumulating at the rate of fifty loads a day, and is undergoing continual disturbance by a gang of sorters. Setting aside the intolerable common nuisance arising from such a huge dust-heap, whether acted upon by March winds or by a summer sun, it is somewhat surprising to find that the residents have not received the support of their own medical officer of health in their efforts to get the objectionable heap of refuse condemned on sanitary grounds, but have had to avail themselves of the professional opinion of the medical officer of health of a neighbouring district (Mr. Tidy, of Islington, whose views on a similar case arising in his own district will be fresh in the memory of our readers), who describes the dust-heap as "not merely a nuisance to the neighbourhood, but likely to prove seriously injurious to health." As we have said, Dr. Tripe may be correct in his confident diagnosis of the cause of the late outbreak of diphtheria in the neighbourhood of this dust-heap. Bearing in mind, however, the influential deputation which not so long ago waited upon the Local Government Board to press upon the Government the danger to be apprehended from using house-refuse for foundations, it is impossible not to regret that Dr. Tripe should in any way lend his sanction to the conduct of the Hackney Board of Works in turning the hill-side of Clapton-common into a dust-yard. It is quite unnecessary to prove that this nuisance has caused the outbreak of diphtheria in order to show that such an accumulation of refuse may become at any time dangerous to health.

THE GOVERNMENT BILL AND THE MEDICAL COUNCIL.

IF, in addition to the care of superintending the education of the medical profession, the Medical Council is to be charged with the duty of controlling the education of dentists and midwives, we may be pretty sure that the work of the Council will be still more badly done than it has been done hitherto. It is scarcely to be expected that the leading practitioners of the country will care to spend their time over the interminable business that must arise out of the creation of special classes of incomplete practitioners. It would be far better to create special Boards at once for these specific duties, independent of the Medical Council and of the Corporations. There is not an accoucheur nor a dentist in the Council. There was something almost amusing in the inexperience of the Council last year when consulted by the Government in regard to the subject of midwives. Another advantage of the appointment of independent boards for these special purposes would be that they would afford an illustration of the working of a body that had only its public purpose to consider, and not its vested interests.

REALISM ON THE STAGE.

IT is a debateable proposition that the æsthetic value of the stage as an expositor has gained by the modern rage for "realism." In the old days, when more importance was attached to the literary element of a drama than to the imitative and pictorial elements of a theatrical representation, the Art prestige of the stage may not have stood so high as at present, but the scholarly phase had greater prominence and the more subtle lights and shades of mental character were depicted with greater fidelity by both playwriters and play-actors. The aim of the stage would seem now to be limited to the production of physical rather than psychological types and features in the rendering of *dramatis personæ*. There is a superabundance of care bestowed upon what is called "business," but scant thought devoted to the portraiture of moods and states of feeling other than the purely emotional, which are, for the most part, exaggerated. This may explain why, for instance, at the St. James's Theatre, in "The Scar on the Wrist," a young girl, who is supposed to have received a mental shock by seeing her father murdered, and who has sustained physical injury by being thrown into a pond, is represented as suffering severely from fainting fits some years afterwards, with intervals during which she is perfectly sensible, except that she cannot understand where she is, and has apparently a crude notion of what she is doing—memory coming back in a most marvellous manner, and the truth dawning upon her mind without any obvious awakening. The general effect produced is that of a travesty of two or three distinct forms of mental disorder strangely compounded. Nevertheless, the part is played fully up to the level of the writing. If more thought had been bestowed on the spirit and less on the matter of this portraiture the result might have been an illustration of mental derangement instead of a caricature. The workings of the sane mind under conflicting emotions are not less wondrously

misconceived by the author of "The Vagabond," at the Olympic. Admirable skill in the delineation of impossible phases of character cannot make the stage-picture human, and therefore humanising. This neglect of the mental phase of dramatic principles is a fault of the modern stage which no amount of realism can compensate. Speaking of realism, at one theatre, which we will not name, the yearning for realism is carried to such an extent that unless the exuberant physical strength of an actor is restrained, we shall probably hear of a young and promising performer being disabled. When mimic castigation takes the form of a shower of real blows, producing real suffering and temporary disability, the feelings of an audience are needlessly outraged, and injury may at any moment be inflicted which everyone would regret.

THE LOSS OF THE "EURYDICE."

No more deplorable and painful calamity has befallen the Navy in recent times than the loss of the training-ship *Eurydice* with some three hundred lives, including a large number of boys returning full of hope from their first cruise. In another column we print a report by Dr. Williamson, of Ventnor, with which that gentleman has kindly furnished us, detailing his efforts to recover the only five persons rescued from the wreck; unhappily, in three instances unsuccessfully. The profession have especially to regret the loss of two members, Staff-surgeon James Leech Whitney, and Surgeon Robert Murdoch, M.B.

We should like to ask whether, looking to the effect of leverage on a ship standing high out of the water, it is the regulation course, when struck by a squall, to let go the *lower* sails first? This is a point to which the attention of seamen may be usefully directed.

HASTINGS.

WE have received from the Hastings Urban Sanitary Authority the report of their medical officer of health for the quarter ending the 31st December last, and a summary of the report for the whole year 1877. The death-rate from all causes during the year was 15·5, comparing with 16·08 in 1876. In spite of the mild winter, the deaths over sixty years of age numbered 192, a considerable increase over the years 1876, 1875, and 1874. The deaths from diarrhœa also show an increase on the preceding years. The past returns of deaths for the whole of the Hastings district by the Registrar-General show a very large proportion of deaths from zymotic diseases. The medical officer of health, however, thinks that this is due to the fact that a considerable number of these cases occur outside the borough; the Hastings registration district including many of the adjacent villages. In future reports it would be as well to place side by side the returns of the urban and rural divisions of the district, so that the relative distribution of diseases of the zymotic class may be fairly estimated. It would also be highly advisable, if possible, to bring all these small outlying villages under the control of the urban sanitary authority; for, if infectious disease at any time should prevail among them, it is extremely liable to be imported into the town. Considerable activity seems to have been displayed in carrying out the work of sanitary inspection. During the year 62 drains have been cleansed, amended, and obstructions in them removed. We should have been pleased, however, to have observed that some attention had been paid to the ventilation of house-drains. The great shortcoming at Hastings is its deficient water-supply. Attempts have been made to improve its quality by the introduction of filter-beds, and these seem to have answered the purpose; but till water is supplied on a more liberal scale, and a constant supply secured, Hastings can hardly take high rank amongst our health resorts. We should advise the sanitary authorities to follow the lead taken by Torquay in this respect, where, in spite of difficulties far greater than exist at Hastings, no expense is being spared to give the town an efficient system of drainage and an unlimited supply of excellent water.

BRITISH SAILORS IN FOREIGN HOSPITALS.

THERE is reason to fear that the sailors of our mercantile marine are very indifferently treated in some of the hospitals in foreign ports, when they have occasion (to use their own phrase) "to go into dock for repairs." A memorandum and returns recently issued by the Board of Trade, after explaining the principle of supporting by a tax hospitals in foreign ports for the treatment of seamen belonging to the ships which frequent them, divide the ports abroad into (1) ports where there is no hospital for seamen, (2) ports where there is a native hospital for seamen, (3) ports where the hospital used by foreign seamen is a foreign hospital. The main lesson we deduce from the returns is that unless the hospital be under British protection, and has attached to it a European practitioner, Jack Tar had better remain outside the building. It is scarcely necessary to observe that our remarks do not apply to the United States. In some of the South American ports the most intense religious bigotry distinguishes the hospital directors. Persistent efforts are made to subvert the Protestantism of English sailors, and if the unfortunate fellows remain deaf to the exhortations of their nurses, they are treated with neglect.

VACCINATION ACT FOR JERSEY.

IT is always satisfactory to have to record any legislation which shows the progress of sound sense in a community. A few years ago the opponents of vaccination had all their own way in Jersey. Now, we are glad to say, a Vaccination Act has been adopted by the States. It is not yet a compulsory Act, but it enacts that public vaccinators shall be named for every parish. The Sanitary Committee is to furnish the public vaccinators with lymph free of expense, to be obtained from the Medical Department of the Privy Council or from the cow. Article III. forbids public vaccinators to take lymph from the arm of a child against the wish of the parents, or from the arm of an adult, of a first-born child, or a child more than ten years old. The fee is to be one shilling for each person vaccinated. Article V. authorises the sanitary authority to offer a prize to all agriculturists for information of cows they happen to have affected with "la variole," or cow-pox, and a second prize in cases where the virus obtained is found fit to be employed in vaccination.

THAMES VALLEY DRAINAGE.

THE inhabitants of Kingston, Twickenham, Weybridge, Chertsey, &c., have been greatly exercised over the Thames Valley drainage scheme, and [much of the evidence given before Colonel Cox, one of the Local Government Board inspectors, at an inquiry held in Kingston, with a view of altering the provisional order so as to include fresh localities in the scheme, was of a conflicting nature. The question is a large and complicated one, and it would need more space than we have at our disposal to deal with the various points and interests opened up in the course of the agitation which has been going on for many weeks past in the districts directly concerned. That in many of the places it is proposed to bring within the operation of the scheme a very serious necessity for making some sort of drainage improvements exists is proved by the statements elicited at the Government inquiry. Thus, to dwell only on the testimony of Dr. Jacob, medical officer of health for the Surrey United Sanitary Districts, we find an almost incredible amount of sanitary evils and defects depicted. The condition of Hersham as to drainage was described as being exceedingly

bad. There were no sewers, and the drainage went into cesspools in the gravel which formed the subsoil of the village. Many of these cesspools were very close to the houses. Again, the drainage of Oatlands was partly into cesspools sunk in the sand near the houses, and wells, and partly into some road-drains which discharged into an ornamental lake. At Weybridge the Sanitary Authority had no sewers. The drainage of the higher or more elevated parts of the parish was into cesspools sunk in the sand, while that of the lower ground flowed into the ditches and streams, and ultimately into the river. It is understood that Colonel Cox will make a tour of inspection in the district before sending in a report to the Local Government Board.

TRINITY COLLEGE, DUBLIN.

WE last week stated that the authorities of this University were about to apply for a licence for the Medical School, under the Vivisection Act, to enable such demonstrations to be given as might be considered essential to medical teaching. We now learn that on last Saturday, the Board of Trinity College had the proposal of the Academic Council under consideration, and passed a resolution to the effect that while expressing no opinion on the propriety of vivisection for purposes of research, they could not approve of it as necessary for teaching.

THE PROPOSED MEDICAL BILL.

WE hear that a special meeting of the Council of the Royal College of Surgeons has been summoned for Monday next, to consider the proposed Medical Bill now before Parliament. This Bill affects the interests not only of the College of Surgeons, but those also of every medical corporation in the kingdom, and of every individual member of the profession. No time, therefore, should be lost in offering a strong and united opposition to the measure.

LOCAL journals report an outbreak of small-pox at Eye, a village of 2000 inhabitants, lying three miles and a half north-east of Peterborough. The first case of the disease in the neighbourhood of Peterborough occurred, it appears, at Crowland, and proved fatal. The first case at Eye was a carpenter, who had made the coffin for, and placed in it, the body of the case at Crowland. Four other cases are now reported in the village. The medical officer of health and inspector of nuisances are said to be doing all they can to prevent the spread of the disease, and vaccination and re-vaccination are being pushed. Indeed, all children needing primary vaccination are said to have been done, but not a word is mentioned of isolation of cases of small-pox or preparation for such isolation!

A PUBLIC meeting, in aid of the building fund of the North Eastern Hospital for Children, was held last week at the Mansion House, under the presidency of Sir R. W. Carden. A resolution in favour of enlarging the building to a capacity sufficient to accommodate fifty in-patients, and another expressive of the usefulness of the institution, the pressing need for improved accommodation, and pledging the meeting to use its best endeavours to raise the necessary funds, were unanimously carried. Up to the present a sum of £3944 10*s.* has been collected in aid of the work.

THE *Surrey Advertiser and County Times* states that the site of land at Coulsdon, near Croydon, recently purchased by the Surrey magistrates, has been cleared of all produce, and handed over to the "county officials." This news will prove interesting to the boards of guardians which have signed memorials protesting against the proposed erection of an additional lunatic asylum for Surrey.

THERE is a vacancy in the honorary staff of the Manchester Royal Infirmary, caused by the resignation of Mr. Thomas Windsor, the ophthalmic surgeon. It is a cause of much regret among his colleagues, for though he has filled the post for only five years, his rare skill and his encyclopædic knowledge will make it almost impossible to fill his place. There are already several candidates in the field, amongst whom is Mr. E. A. Birch, who has for some little time been Mr. Windsor's assistant in the operating-room.

THE medical officer of health for Cranleigh, in his annual report for 1877, states that the supply of water throughout the district is very deficient in quantity, and in many places impure and unwholesome, and not unfrequently polluted with drainage poison. A perusal of the report leads us to think that a strong stimulus from the central board should be applied to the local sanitary authority in order to induce this body to commence the necessary drainage works without delay.

GEORGE PORTER, Esq., Surgeon in Ordinary to Her Majesty the Queen in Ireland, and President of the Dublin branch of the British Medical Association, was called and sworn upon the grand jury of the County Wexford at the assizes just held.

DR. WM. FRANCIS MARA died on Saturday last from typhus fever, caught in the discharge of his duty as medical officer for the Athy Dispensary District, Athy Union.

BATHS AND BATHING.

II.—THE PHYSIOLOGICAL ACTION OF BATHS.

ON no subject within the whole range of therapeutics have more groundless assertions been made than with regard to the action of baths upon the animal economy. The professed hydropathist is a most credulous person—at least we hope so,—and lives on the suffrages of persons blessed like himself with a large share of credulity. The literature of baths is, with a few honourable exceptions, of a most worthless kind, and the thousands of monographs written for the public by physicians interested in the success of their spas are fit only for the wastepaper-basket. It is evident that when people leave home to undergo a cure at some foreign or English bath, their whole method of living undergoes so complete a change that the ascribing of any improvement of the health to this or that factor of the curative process is a matter which is regulated only by the fancies or wishes of the doctor or the patient. It may safely be said that the effect of a daily bath upon a chronic ailment is a matter which is almost beyond the range of logical proof. At the best it is only a matter of probability; but the probability is, it must be admitted, exceedingly great in very many instances. By looking somewhat narrowly to the physiological action of baths, we shall be armed at starting with the necessary knowledge of what possible results are likely to be obtained by the employment of water as a therapeutic agent, and it is advisable, therefore, to recall to the reader's mind a few elementary facts.

All baths act primarily upon the skin, an organ of most complicated structure and performing many functions. We must bear constantly in mind the epidermic covering, which is incessantly pealing off under the moistening influence of the sweat, combined with the accidental friction of the surface; the thousands of papillæ, the organs of common sensation, of touch, and of the sense of pain, each one of which contains a nerve-ending capable of transmitting every shock centripetally to the brain or cord, there to liberate some motor impulse, travelling centrifugally, to exercise its effect upon muscles both striated and unstriated; its rich

network of bloodvessels; its lymphatics, lying in the subcutaneous tissue; the sweat-glands, with their countless ducts pouring forth a stream of perspiration which never ceases, and may amount to pints; the hair-bulbs, with their attached muscles; and, lastly, the sebaceous glands, which give to the skin its peculiar greasiness and its peculiar odour. The skin must be regarded as a protective organ, a vascular organ, a glandular organ, and a nervous organ. The skin is a protection against mechanical injury, and, being a bad heat-conductor, it protects from excessive heat from without as well as against the too ready escape of heat from within. It regulates the temperature of the body by encouraging or repressing the radiation of heat by the dilatation or contraction of its bloodvessels, as well as by the amount of sweat which it pours forth to be evaporated from its surface. When the skin is dry, and especially when it is covered by woollen clothing, it loses very little heat by conduction; but when it is moist, and in direct contact with good conductors, such as metals or water, the rapidity with which heat is conducted away proves to be a very efficient means of cooling the body. The importance of the skin as a vascular organ is seen in the faintness which is produced by the excessive filling of the cutaneous vessels, and in the dangerous internal congestions which are liable to result when the vessels of the skin undergo an extreme or prolonged contraction. The glandular functions of the skin are such as to entitle it to rank with the most important glandular organs of the body. The sweat is not only a highly necessary excretion from the blood, but serves important physical purposes, in cooling the body, and possibly also in lubricating the folds of the skin during rapid exercise. The action of the skin is to a certain extent complementary to that of the lungs and kidneys, and its activity often bears an inverse ratio to the activity of those organs. The nervous functions of the skin are perhaps more important than any of those hitherto mentioned. The sense of touch is the most widely spread of all our senses, and every impression made upon the surface of our bodies is conducted to our nerve-centres and produces its due effect. The common phenomena of reflex action are the coarse expressions of this intimate union between centres and periphera. The muscular movement when the soles are tickled, the laughter which results from tickling the axillæ, and the sighing and gasping which follow when water is dashed upon the face or breast, all show how easy is the centripetal flow of nervous impressions; while the blanching under the influence of fear, the blushing under the influence of shame, the copious perspirations which result from mental anxiety, and the power of horror to make the hairs of our flesh stand up, all point to the equal ease with which impressions travel centrifugally, and show how intimate is the commerce between the skin and the highest psychical centres.

We have next to consider what, at first sight, would seem to be the most important question with regard to the effect to be produced by baths. This is the power, if any, possessed by the skin of absorbing matters with which it comes in contact. That such bodies as mercury and belladonna, if mixed with suitable vehicles, and applied with friction, are capable of being absorbed, and of producing their physiological action through the medium of the unbroken skin, is one of the most notorious facts of medicine, and arguing from it there has been a tendency to believe that watery solutions are capable of absorption also. The opinions of physiologists on this important point are still unsettled. It seems to be generally admitted that gases may be absorbed by the skin, and both carbonic acid and sulphuretted hydrogen may gain admission to the body in this way. It is admitted also that substances which are miscible with the sebaceous secretion can be absorbed, and hence the comparative ready absorption of bodies which are capable of being dissolved in, or intimately mixed with, oil and lard. Under ordinary circumstances the sebaceous secretion accumulated on the surface of the skin prevents the actual contact of water with the skin, and it is only when this has been washed or scraped away that any absorption of water is possible. Even under the most favourable circumstances the absorption of water is very small indeed, and at present there is no evidence whatever that mineral substances dissolved in water are ever absorbed. If the absorption of mineral solutions by the skin were not a matter of great difficulty it is hard to believe that sea-bathing could be a tolerable or even a safe process. It is at all events certain that, in studying the effects of baths, the absorption of mineral substances by the skin is a matter of very small importance.

The effects of baths are produced mainly by their action on the cutaneous nerves. The sudden immersion of the body in cold water produces a shock, which is followed by a slight shiver in the muscle, and the contraction of the cutaneous capillaries. There is often also a slight gasping of the breath. There is a feeling of cold, and the temperature is at first slightly elevated and then depressed. The pulse and respiration are both quickened, and the amount of carbonic acid eliminated by the lungs is notably increased. If the water be very cold, and the bath continued, those symptoms deepen in intensity; but if the body be quickly removed from the bath, the familiar phenomenon known as reaction appears, and the first effects are all reversed; there is dilatation of the cutaneous vessels, accompanied by a sensation of warmth and a general feeling of vigour. The cooling effect of a cold bath is brought about, probably, in two ways: first, by the actual conduction of heat from the surface of the body by cold water; and, secondly, by a modification of heat-production induced by the influence of the cutaneous impressions upon the heat-regulating centres in the upper part of the spinal cord and the medulla. The very rapid depression of temperature which takes place when hyperpyretic patients are immersed in water can hardly be explained by reference merely to the ordinary laws of heat, and it is almost certain that the central effects produced by cutaneous impressions play a very large if not the largest part in the process. The effects of the cold bath being mainly due to impressions made upon the cutaneous nerves, the various modifications of the cold bath largely depend on their power of increasing its stimulating action. The colder the water, the more violent the impression. The frequent change of water, such as we get in the sea or in running streams, increases the stimulating effect. Great force of impact, as when water falls from a height or comes forcibly through a hose upon the body; the division of the stream, as is seen in shower-baths and needle-baths; and the addition of acids or salts to the water, all act, it would seem, by increasing the stimulating power which the water exerts upon the cutaneous nerves.

Warm baths produce an effect upon the skin directly contrary to that which is brought about by cold water. The cutaneous vessels dilate immediately under the influence of the heat, and although this dilatation is followed by a contraction of the vessels, this contraction is seldom excessive, and the ultimate result of a warm bath is to increase the cutaneous circulation. The pulse and respiration are both quickened, as in the cold bath. The warm bath increases the temperature of the body, and by lessening the necessity for the internal production of heat, it decreases the call which is made upon certain of the vital processes, and enables life to be sustained with a less expenditure of force. While a cold bath causes a certain stiffness of the muscles if continued for too long a time, a warm bath relieves stiffness and fatigue, as every hunting man must know full well. The ultimate effect of hot and cold baths, if their temperature be moderate, is about the same, the difference being, to use the words of Braun, that "cold refreshes by stimulating the functions, heat by physically facilitating them; and in this lies the important practical difference between the cold water system and the thermal method of treatment."

REPORT ON THE SURVIVORS FROM THE WRECK OF THE "EURYDICE."

BY JAMES M. WILLIAMSON, M.D.

A LITTLE before 7 P.M. on Sunday evening I was taken on board the schooner *Emma*, lying in Ventnor Bay, and was shown down into the cabin. There I found Mr. Moreton; he had arrived some time before me, and was working very hard and enthusiastically to restore animation in the body of Lieutenant Tabor, which lay on the floor in front of the fire. Cuddeford was sitting at the side of the cabin, and although suffering from shock, was fairly well. I therefore took my place by the side of Captain Ferrier's body, but after persevering for a considerable time no signs of returning life exhibited themselves. The case of Lieutenant Tabor seemed more promising, because the schooner's crew said he

was alive when he left the water, but that he had a fit as they lifted him on board. Mr. Moreton's efforts failed however. We were told that another man (Fletcher) in the forecastle was doing well. It was therefore arranged that I should take Cuddeford on shore and place him in the Cottage Hospital at Bonchurch, and that Fletcher should be sent on afterwards. I saw the dead body of the fifth man, Bennett, in the bottom of the boat as we rowed ashore.

Cuddeford was soon got to bed. His temperature seemed good, and his pulse was 88, of fair strength. His noisy respiration after being in bed made us anxious lest bronchitis was following the exposure, but he ascribed it to a cold caught after leaving the warm latitudes. A linseed poultice was applied to his chest, and next morning he was apparently quite well. His pulse was 80; his temperature 98·6°; and his only anxiety to go to Portsmouth and report himself to the Admiralty.

Fletcher, aged nineteen, did not bear the exposure so well. He complained much of cold, and evidently felt the shock severely. His pulse was 90 and very compressible. On the following morning the pulse was 72, much stronger; his temperature 99·3°. He expressed himself as feeling perfectly well.

As might be expected, neither men slept well; they said they "could not get it out of their heads."

Both men left on Monday afternoon for Portsmouth, and, after reporting themselves to the Admiralty, were required to return to give evidence at the inquest. They are both powerfully-built men, and have now almost recovered their usual health.

Correspondence.

"Audi alteram partem."

SPECIALISTS AND SPECIALISM.

To the Editor of THE LANCET.

SIR,—The position occupied by Sir Henry Thompson at a recent meeting of the Medical and Chirurgical Society, when he presented in abstract five hundred cases of stone in the adult male, treated by himself, is worthy of the highest admiration and congratulation. But it is very significant that, with the exception of Mr. Cadge, of Norwich, who can also be warmly congratulated on his large and successful experience of lithotrity and lithotomy, no general hospital surgeon present (and there were a great many) spoke from a large personal experience. How is this circumstance to be explained? The answer was given by Mr. Cadge when he alluded to the "division of labour," otherwise *specialism*. Sir Henry Thompson has, from circumstances over which he had, as it were, no control, been forced of late years to limit his practice to a department.

Now, since it is admitted that the future of lithotrity depends upon the early detection of the stone, in order that it may be disposed of in from two to four sittings—a condition upon which Sir Henry laid great stress,—it is most undesirable that a very large number of stone cases drift into the hands of one surgeon, or into a single institution where there are no pupils, if recurring generations of students are to be efficiently educated. If many of the special hospitals, which cannot be regarded in the light of educational establishments in a broad sense, continue to exist, the large general hospitals will be starved, and a race of half-educated practitioners will arise, to the manifest injury of society.

Since the charitable public cannot be taught discrimination, the profession must endeavour to limit the abuse of specialism. To this end, students past and present must be loyal to their Alma Mater, and should do their utmost to send their poorer patients to the hospital to which they themselves have been educated, or, at any rate, to a general hospital.

Also, I suggest, in order that students may have the opportunity of seeing a fair sprinkling of all classes of disease and of accident, each member of the staff of a general hospital, in addition to his ordinary work, be credited with a department. In this way, the whole range of medicine and surgery would be practised in accordance with the public leaning towards specialism, while the physicians and surgeons would not be mere specialists.

As an apposite illustration of the practical application of experience acquired in a general hospital to a (so called) special case, I will draw attention to a patient presented by Mr. Lund, of Manchester, at a late meeting of the Medical Society of London. The lad had been the subject of severe talipes equino-varus. Mr. Lund had, as surgeon to the Manchester Infirmary, seen how useful a foot may result after the removal of the astragalus consequent on injury. He adapted the knowledge thus gained to the special malformation, and removed the astragalus from both feet, with the most gratifying result.

With the one exception of ophthalmology, specialism is opposed to the true interests of the public.

I am, Sir, yours, &c.,

Queen Anne-street, Cavendish-square. C. F. MAUNDER.

"DISTOMA CONJUNCTUM."

To the Editor of THE LANCET.

SIR,—A few weeks ago I had the pleasure of communicating to you my second "find" of the Distoma Sinense (McConnelli) in the liver of a deceased Chinaman. I have now to announce the interesting fact that I have lately met with the Distoma conjunctum again. I believe this to be only the second case on record of the presence of this fluke in the human liver. Discovered by Professor Cobbold in 1858 in the liver of the American red fox, the D. conjunctum was unknown as a human parasite until I published the first case in 1876[1], and the present instance is therefore, as I have said, the second case on record.

The subject was (as in the first case) a Mahommedan male, Bhanoo, aged 24, a boatman by occupation. He was admitted into the Medical College Hospital, suffering from dysentery, on Jan. 23rd, 1878. The disease was of about two months' duration. The patient was much emaciated and anæmic. At first the stools were scanty, and passed with the usual griping and straining. Latterly, they became more frequent and serous in character, were evacuated without pain, and often involuntarily. There was no hepatic or splenic enlargement, and no pain or uneasiness in the region of the liver. No symptoms, in fact, apart from the bowel complication, which could direct attention to the liver as being the seat of any special disorder. Various remedies were employed for the relief of the dysentery, but unavailingly, and the patient died exhausted on Feb. 20th.

On the 21st I made a post-mortem examination, eighteen hours after death. The whole of the large intestine was found darkly pigmented, and covered with innumerable small ulcers, specially thickly distributed in the sigmoid flexure, the submucous tissues in this part being also hypertrophied. The liver was small (weighing 28 oz.), its capsule thickened; on section dark and greasy; a good deal of fluid blood in the large portal and hepatic veins; the lobular structure moderately distinct. Bile-ducts dilated, filled with thick yellow bile, and containing numerous Distomata conjuncta (over a dozen were removed on pressure and dissection). The gall-bladder contained much deep orange-yellow-coloured bile, and two distomata were found suspended in the same (none in the scanty secretions of the bowel). The flukes were all dead. The lungs were hypostatically congested, but nothing else remarkable in any other organ of the body.

I have only to remark, first, that these fresh distomata are—as noticed in my first case—somewhat larger than the original entozoon discovered by Cobbold, being fully ⅜" in length, and several ½", as against ¼", the average size of the latter; otherwise they are quite identical. Secondly, that Mahommedans, especially of the lower class, are, as a rule, much more unwholesome and uncleanly feeders than Hindoos, and are much less restricted in this respect by caste or religious scruples.

I am, Sir, yours obediently,

J. F. P. MCCONNELL,
Professor of Pathology and Resident Physician,
Medical College Hospital, Calcutta.

Calcutta, March 1st, 1878.

[1] THE LANCET, vol. i. 1876, p. 342.

THE GOVERNMENT MEDICAL ACT AMENDMENT BILL.

To the Editor of THE LANCET.

SIR,—The Government Bill virtually has been framed for the advantage of the Scotch and Irish medical corporations, for the chemists and druggists, and the quacks, including those who hold fictitious diplomas and those who hold no diplomas whatever. That such a Bill should be allowed to become law would be a disaster to the profession, and a still greater disaster to the public. Its proposed amendment of the 40th clause of the present Medical Act perpetuates the loophole of escape for the quacks which that clause already contains; and the paragraph touching the giving of certificates is equally unsatisfactory, inasmuch as it would not reach those registered practitioners who fill up death certificates without themselves having attended the deceased persons to whom they refer. The Bill passed, and the repeal of the penal clauses of the Acts of Parliament of the Colleges of Physicians and Surgeons and the Society of Apothecaries being thus obtained, the position of the profession would be this: Medical men could not practise nor take a medical title unless they were doubly qualified and registered, but quacks could practise with impunity, with or without a fictitious title. Likewise chemists and druggists could practise at their pleasure both medicine and surgery across their counters or at the homes of their patients. Illegal practice in its worst phases would, in fact, become legalised. Would the establishment of such a "free trade" system of doctoring as this is be an advantage to the public, or would it be productive of mischief and danger so great as to render their exaggeration impossible?

I am, Sir, your obedient servant,

23rd March, 1878. R. H. S. CARPENTER.

THE ARMY MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—I venture to offer a few suggestions regarding the grievances affecting the officers of the Army Medical Department in the hope that they may be taken into the favourable consideration of the Secretary of State for War. They are as follows:—

1. The refusal of exchanges, such as are allowed to other officers of the army.

2. The refusal of sick leave beyond six months. Other officers of the army can obtain it for eighteen months or two years if necessary for the recovery of lost health.

3. The short-service system, which is unfair to the individual, and an invidious distinction peculiar to the Army Medical Department.

4. Barrack accommodation. The medical officers were all withdrawn from regiments for the good of the service, and ought therefore to be entitled to staff accommodation or allowances. An Army Circular, however, states that when a medical officer lives in barracks he can only claim regimental accommodation, and as it often happens he is not an honorary member of a mess, his discomfort can easily be imagined, especially if he be married.

5. A greater inducement, in the way of increased pension, should be given to retire after twenty-five years' service.

From the feeling expressed in the department, and in the medical schools, I have no hesitation in saying that a distrust in the promises of the Government owing to many breaches of the favourable clauses of various Warrants is the chief cause of the difficulty in obtaining candidates to replenish the declining strength of the department. The abolition of the regimental system is considered a grievance by some, but I am most decidedly averse to that system, and this feeling is fully shared by the more reflecting members of the department, and I trust never to see the regimental system reintroduced in any form, although letters have appeared in various newspapers, from surgeons-general down to mothers of intended candidates, advocating it. All commanding officers are in favour of it, but with these I am sure it is a pure matter of sentiment, as they very much dislike the idea of medical officers being removed from their command.

The endearing epithets of "our Medico," "our Pill," which lately appeared in a daily paper, may be pleasing to a certain class of medical officers, but it says very little for their spirit or sense of what is due to themselves or profession, and the sooner the department is weeded of that class the better. The medical officer had no assured position in the regimental system, and, whatever his seniority, those outward forms of respect were never paid to him that officers of a corresponding regimental rank received; and although his contributions to the mess and band far exceeded that of any other officer, he was dependent on the assent of a junior combatant for the privilege of having an extra tune on a guest night. Now, compare the existing system. Thanks to the present Director-General, and an able colleague of his, medical officers are invested with full disciplinary control in their own hospitals, only subject to the authority of the general officer commanding and the principal medical officer of the district, and a medical officer in charge of a station hospital holds a far more important position than any regimental surgeon-major ever held, and is not subject to the petty annoyance of attending parades, orderly-room, &c., often his fate in former days.

Having tried the regimental and station hospital system, I have no hesitation in giving my preference to the latter, which is far better for the medical officer, patient, and service generally.

If the grievances mentioned were removed, I would do my best to encourage young medical men of a good stamp to offer themselves as candidates.

I am, Sir, yours obediently,

March 15th, 1878. SURGEON-MAJOR.

PARLIAMENTARY PROCEEDINGS.

HOUSE OF COMMONS.

Friday, March 22nd.

VACCINATION IN THE ISLE OF MAN.

Mr. HICK asked the Secretary of State for the Home Department whether gentlemen appointed as public vaccinators in the Isle of Man are required to have the same qualifications as in England; and, if not, how many public vaccinators have been appointed to act as such in the Isle of Man without having the double qualification, and how many without having any qualification at all?

Mr. CROSS: The Vaccination Act passed the Legislature of the Isle of Man, but it had to be sent back for revision, and is now waiting the Royal assent, which I hope it will receive on Tuesday next. The Lieutenant-Governor, under that Act, will appoint public vaccinators. The Act requires that they shall be medical practitioners. There is no special qualification beyond that named. Upwards of a year ago, in order to bring vaccination within the reach of those willing to be vaccinated, public vaccinators were appointed; these appointments, however, will be subject to revision as soon as compulsory vaccination becomes the law. In making the appointments under the Act the Lieutenant-Governor will be guided in his selection by the rules which govern similar appointments in England. (Hear, hear.)

In reply to Mr. Bright, Mr. CROSS stated that vaccination in the Isle of Man was compulsory under the Act which had passed the local Legislature.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on March 21st:—

Dickson, Hanmer, Nelson-square.
Fuller, Ludham Henry, Denbigh-street.
Hughes, David Arthur, Leamington Villas.
Marsh, Joseph Henry, Greenhithe, Kent.
Michell, Henry Slyman, Chelsea Dispensary, Sloane-square.

IT is proposed to alter the rules of the Bristol Royal Infirmary, so that for the future a physician shall cease to hold office after the age of 60, and a surgeon after the age of 55.

DR. DONALD C. CAMPBELL gave a ball last week to the *employés* at the Essex Lunatic Asylum, Brentwood, in celebration of his silver wedding-day, at which he was presented with a silver tea-tray and an illuminated address, by the officers, servants, and tradesmen, to commemorate his completion of a quarter of a century's service as superin-

tendent, and to mark their appreciation of the interest he has ever evinced in the welfare of all associated in the working of the institution.

VACCINATION. — The following gentleman has received a Government grant for work done in his district—viz., Alex. W. Reid, A.M., M.B. (£10 13s.), Arnold, Basford Union, Notts.

THE METEOROLOGICAL SOCIETY. — The usual monthly meeting of this Society was held on Wednesday, the 20th inst., at the Institution of Civil Engineers; Mr. C. Greaves, president, in the chair. The discussion on Dr. Tripe's paper, "On the Winter Climate of some English Seaside Health Resorts," was resumed and concluded, after which the following papers were read:—"Notes on a Waterspout," by Captain W. Watson, F.M.S.; "Notes on the Occurrence of Globular Lightning and of Waterspouts in County Donegal, Ireland," by M. Fitzgerald; and "Observations of Rainfall at Sea," by W. T. Black. The discussion on the subject of waterspouts and globular lightning was adjourned till the next meeting on April 17th.

DONATIONS, &C., TO MEDICAL CHARITIES. — Mr. Goswell Johnson, of Bromley-common, bequeathed £500 to the London Hospital, £300 to the Royal London Ophthalmic Hospital, £250 to the Seamen's Infirmary at Ramsgate, £200 to the Dispensary for Skin Diseases in Charlotte-street, Fitzroy-square, and £100 to the Royal South London Ophthalmic Hospital, all payable upon the death of his widow. The Hon. Baron Pollock has given £200 to the repairs fund of the Westminster Hospital. The Crown Prince of Austria has given £20 to the Seamen's Hospital, Greenwich. The Seaside Convalescent Hospital, Seaford, has received £300 (less duty) under the will of Mrs. Julia Ann Dobie.

Medical Appointments.

AMPHLETT, E., M.A., M.B., F.R.C.S.E., has been appointed Assistant-Surgeon to Charing-cross Hospital.

BAKER, Mr., has been appointed Surgeon-Dentist to St. Mark's Ophthalmic Hospital, Dublin.

BALBIRNIE, J. P., L.R.C.P.Ed., L.R.C.S.Ed., & L.M., has been appointed Medical Officer to the Furness Railway Company, for the Dalton-in-Furness District, vice Clarke, resigned.

BENNETT, Mr., has been appointed a Consulting Surgeon to St. Mark's Ophthalmic Hospital, Dublin.

BLAKE, R. M., L.K.Q.C.P.I. & L.M., L.R.C.S.I., has been appointed Certifying Factory Surgeon for Tuam, co. Galway.

CALLENDER, G. W., F.R.C.S.E., F.R.S., has been appointed Consulting Surgeon to the Royal Hospital for Diseases of the Chest, vice Adams, deceased.

DAVIES, T., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer and Public Vaccinator for the Llanwrin District of the Machynlleth Union.

DONOVAN, D., M.D., L.R.C.S.Ed., & L.M., has been appointed Medical Officer, Public Vaccinator, &c., for the Skibbereen Dispensary District of the Skibbereen Union, co. Cork, at £120 per annum and fees, and £30 per annum as Medical Officer of Health, vice Hadden, deceased.

DUKE, Dr. A., has been appointed Certifying Factory Surgeon for Upper Norwood.

EDWARDS, R., L.S.A.L., has been reappointed Medical Officer and Public Vaccinator for the Llanbrynmair District of the Machynlleth Union.

FREW, W. S., M.B., C.M., has been appointed House-Surgeon to the Paisley Infirmary, vice Young, resigned.

GREAVES, E., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Corby District of the Kettering Union.

HEBB, R. G., M.B., M.R.C.S.E., has been appointed Resident Medical Officer to the Stanhope-street Dispensary, Clare Market, vice Harrhy, resigned.

HICKINBOTHAM, J., M.D., L.R.C.P.Ed., has been appointed Physician to the Birmingham and Midland Hospital for Women.

HUDSON, A., M.D., F.K.Q.C.P.I., has been appointed a Consulting Physician to St. Mark's Ophthalmic Hospital, Dublin.

KAY, Dr. A. G., has been appointed Medical Officer and Public Vaccinator for the Parish of Newton-upon-Ayr, vice Wield, deceased.

LEADER, R. R., M.D., C.M., has been appointed Medical Officer, Public Vaccinator, &c., for the Millstreet Dispensary District of the Millstreet Union, co. Cork, at £110 per annum and fees, and £34 per annum as Medical Officer of Health, vice J. Leader, M.D., resigned.

LIEBREICH, R., M.R.C.S.E., has been appointed Consulting Ophthalmic Surgeon to St. Thomas's Hospital.

LITTLE, J., M.D., F.K.Q.C.P.I., has been appointed a Consulting Physician to St. Mark's Ophthalmic Hospital, Dublin.

MCCULLAGH, J. A., M.B., has been appointed House-Surgeon to the City and County Infirmary, Londonderry.

MCNAUL, H. H., M.B., L.R.C.S.Ed., & L.M., has been appointed Medical Officer for No. 1 District, comprising the Workhouse of the Dartford Union, at £65 per annum and fees, vice Chilcot, resigned.

MATHEWS, J. S., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Machynlleth Outlying District of the Machynlleth Union, vice Lloyd, resigned.

MURRELL, W., M.R.C.P.L., has been appointed an Assistant-Physician to the Royal Hospital for Diseases of the Chest.

NUNNELEY, J. A., M.B., M.R.C.S.E., has been appointed a Certifying Factory Surgeon for Leeds, vice Chorley, deceased.

RICHMOND, O. R., L.R.C.P.L., M.R.C.S.E., has been appointed Certifying Factory Surgeon for Gravesend.

SAUNDBY, R., M.D., L.R.C.P.Ed., has been appointed Pathologist to the Birmingham and Midland Hospital for Women.

SLOAN, A., M.B., has been appointed Police Casualty Surgeon for the Northern District, Glasgow, vice Renfrew, resigned.

SMITH, W. B., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed House-Surgeon to the Stockton Hospital and Stockton Dispensary, at £200 per annum, vice Howson, resigned.

THOMSON, J., M.D., C.M., has been appointed Resident Medical Officer to the Wilton Fever Hospital, Salford, at £100 per annum, board and residence, vice Tatham, resigned.

VACHELL, H. R., M.R.C.S.E., L.S.A.L., has been appointed House-Surgeon to the Glamorganshire Infirmary and Dispensary, Cardiff, vice Campbell, resigned.

WHARRY, R., M.D., has been appointed an Assistant-Physician to the Royal Hospital for Diseases of the Chest.

WRIGHT, C. J., M.R.C.S.E., L.S.A.L., has been appointed a Certifying Factory Surgeon for Leeds, vice Chorley, deceased.

Births, Marriages, and Deaths.

BIRTHS.

BRIDGMAN.—On the 26th inst., at Burton-on-Trent, the wife of H. E. Bridgman, M.R.C.S., of a son.

COGHILL.—On the 24th ult., at Kandy, Ceylon, the wife of J. D. M. Coghill, M.D., Medical Inspector of the Coffee Districts, of a son.

JEFFERISS.—On the 20th inst., at Kippen, Stirlingshire, the wife of W. R. S. Jefferiss, M.D., of a son.

JOHNSON.—On the 19th inst., at Albion-street, Hull, the wife of Charles Hargitt Johnson, M.R.C.S.E., of a daughter.

KELLY.—On the 18th inst., at Drogheda, the wife of John Bellew Kelly, L.K.Q.C.P.I., of a daughter.

TAYLOR.—On the 21st inst., at York-place, Edinburgh, the wife of William Taylor, M.D., of a son.

MARRIAGES.

BLACKWELL—LANGLEY.—On the 5th January, at St. John's, Parramatta, New South Wales, Richard F. Blackwell, M.D., to Annie Florence, daughter of George Langley, Esq.

ROBERTS — HOPKINSON. — On the 13th inst., at the Parish Church, Ashover, Theophilus Lewis Roberts, M.R.C.S.E., to Elizabeth, daughter of the late John Hopkinson, Esq.

DEATHS.

BROWN.—On the 22nd inst., at Milford, Hants, Dr. Robert Brown, late of the Bombay Army, aged 75.

DICK.—On the 24th inst., at West Claremont-street, Edinburgh, Robert Dick, M.D.

GANE. — On the 19th inst., at Clifton, James Gane, M.R.C.S.E., aged 74.

GLENDINNING. — On the 26th January, at Geelong, Victoria, George Glendinning, M.B.

GURDON. — On the 3rd ult., suddenly, at Polstead, Theophilus G. Gurdon, M.R.C.S.E. & L.S.A., of Boxford, Colchester, aged 63.

KITCHING.—On the 25th inst., at Heworth, near York, John Kitching, M.D., aged 66.

MARA. — On the 23rd inst., at Athy, co. Kildare, William Francis Mara.

MORRISS.—On the 17th inst., at Trieste, Samuel Morriss, L.R.C.S.I., Resident Assistant Medical Officer of the Borough Gaol, Liverpool.

MORSE. — On the 16th inst., at Kennington-lane, Edward Morse, M.R.C.S.E., aged 68.

PERCY. — On the 30th January, at Carutal, Venezuela, Dr. William Bushe Percy, aged 35.

PITMAN.—On the 22nd inst., at Acacia House, Highgate-hill, after a few days' illness, Robert Pitman, L.R.C.P. &c.

RIGBY. — On the 11th January, at Kyneton, Victoria, George Owen Rigby, M.D., aged 48.

ROBERTS.—On the 23rd inst., at Cimiez, Nice, John Roberts, M.R.C.P.L., late of Upper Norwood, aged 68.

THOMSON. — On the 22nd inst., at Partick, Glasgow, William Cooper Thomson, M.D.

TOOTELL. — On the 24th inst., at Mitree, Scinde, Edward Tootell, L.R.C.P.Ed., Surgeon, 30th Regiment of Native Infantry, aged 28.

TUTTIETT.—On the 9th inst., at Montpellier House, Ventnor, Louisa Julia, wife of H. B. Tuttiett, Esq., M.R.C.S.E., and youngest daughter of the Hon. Hugh Percy, late Bishop of Carlisle.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

BOOKS ETC. RECEIVED.

Dr. Sadler: Report on the Sanitary Condition of Barnsley.
The Australian Medical Journal.
The British Journal of Dental Science. March.
Dr. Powell on Consumption.
Dr. W. Johnston: Borough of Leicester.
Dr. Prosser James: Laryngoscopy.
Dr. R. G. Latham: Outlines of Philology.

HARVEY TERCENTENARY MEMORIAL FUND.

THE following is the text of a letter sent during the past week to the Universities, Medical Corporations and Societies :—

SIR,—It is an approved custom in civilised countries to recognise and mark distinguished services to mankind by the erection of statues or other public monuments. There is in England no such national recognition of the services of Harvey, the discoverer of the circulation of the blood, who, by his labours resulting in that discovery, laid the foundation for all progress in physiology. The third centenary of his birth is now approaching, and it is felt that this will be a proper opportunity for erecting a statue of Harvey at Folkestone, where he was born. A movement to effect this object has been initiated at a public meeting held at Folkestone, and the project has been warmly espoused in London and elsewhere.

Under these circumstances, we, the members of the London Executive Committee of the Memorial Fund, feel that we may appeal with every confidence of support to all classes of the community, especially to the Universities, to the Medical Corporations and Schools, and to the Medical and other learned Societies of the United Kingdom. We, therefore, ask that you will kindly bring this matter under the notice of ——, and seek to obtain for this project the kind co-operation and assistance of your —— in providing the necessary funds for the erection of the proposed statue.—We have the honour to be,

Your obedient servants,

GEORGE BURROWS, M.D., } Honorary
PRESCOTT HEWETT, } Treasurers.
WILLIAM W. GULL, M.D.
JAMES PAGET.
RICHD. QUAIN, M.D.
G. OWEN REES, M.D.
JOHN SIMON.
ED. H. LUSHINGTON.
D. H. STONE.
GEORGE EASTES, M.B., 69, Connaught-street, Hyde-park-square, London, W., } Honorary Secretaries.
W. G. S. HARRISON, B.A., Town Clerk, Folkestone,

We are pleased to learn that a considerable addition has been made to the subscription-list, and a special list of subscribers will be printed in *The Times* on Monday next, which is the three hundredth anniversary of Harvey's birth.

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Stewart's Instruments.)

THE LANCET OFFICE, MARCH 28TH, 1878.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb	Dry Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Mar. 22	30·02	N.	36	40	..	45	38	..	Cloudy
„ 23	29·78	N.W.	31	34	..	44	29	..	Cloudy
„ 24	29·61	N.W.	36	41	..	46	40	..	Cloudy
„ 25	29·64	N.	..	35	..	45	29	..	Overcast
„ 26	30·31	N.W.	33	35	..	48	29	..	Foggy
„ 27	29·81	N.	36	38	..	50	33	..	Snowing
„ 28	29·58	E.	36	38	..	41	34	..	Overcast

Notes, Short Comments, and Answers to Correspondents.

THE DRAINAGE OF CHOBHAM.

THE Committee appointed by the Chobham vestry to consider the reports of the medical officer of health and of the inspector of nuisances relative to the sanitary condition of Chobham, after giving the matter careful consideration, have acknowledged that the state of the village is not satisfactory. With a view of relieving it of some of its impurities, the Committee somewhat faintly recommend that two glazed-pipe sewers should be carried through the village for a distance of about half a mile, and meeting at a point where the sewage could be applied to the land. The Committee, however, seem to be appalled by a consideration of the question of expense, which they regard as a very serious and formidable one, and, before involving the parish in the construction of costly sewage works, they suggest that an earnest effort should be made to improve the condition of the village by rectifying defects in individual houses. The water-supply question is airily described as having difficulties of its own, which the Committee will not at present attempt to report upon. We are disposed to think that the seemingly expensive process of sewerage would in the end prove to be the cheapest alternative. Those who have passed through Chobham will admit that it is worthy of a not inconsiderable outlay of money in the endeavour to enhance its natural salubrity.

Mr. Sanderson.—We are not aware how the local law of the canton may affect the question. It would be well to address the inquiry direct to the British Consul.

Oxon.—The best Clubs and Societies of good repute now generally pay five shillings per head per annum.

UNQUALIFIED ASSISTANTS AND THE APOTHECARIES' SOCIETY.

ON Thursday, March 21st, an action was, with partial success, taken by the Apothecaries' Society against Thomas Johnson, of Knottingley, for the recovery of a penalty of £20, on account of his having, as alleged, practised as an apothecary without being legally qualified and certificated. The jury returned a verdict in favour of the plaintiffs for the mitigated penalty of £5. The solicitor for the defendant said his client had been twenty years in the profession, and he maintained that, though he had never been bound by an indenture, he had, in the eyes of the law, served an apprenticeship—a view from which the Judge of the Pontefract County Court strongly dissented. The defendant, in later days, had been assistant to various practitioners till, doubtless, he came to fancy himself a sort of medical practitioner, and certainly succeeded in putting himself into a false position. It is lamentable to see men who ought to know better thus committing themselves.

House-Surgeon.—The work referred to is published by Messrs. Churchill.

COMPULSORY NOTIFICATION OF INFECTIOUS DISEASE.

To the Editor of THE LANCET.

SIR,—In a letter signed Arthur Ransome, the question of compulsory notification of cases of infectious diseases is discussed in to-day's LANCET. Without discussing all the points there mentioned, I wish to bring before the profession one great objection, which should, I think, make us hesitate in any way to be parties to such notification or registration. This objection will be most clearly shown by the following case, which is a sample of others which have come under my notice.

W. W——, a working man, of steady and industrious character, after several years' hard work, had succeeded in making a comfortable home for his wife and children. He also supported, or helped to support, his wife's father and mother, who lived in his house, they being aged, infirm, and past work. Without entering into further particulars, I may briefly state that early in the present year his family, consisting of four boys, were attacked by scarlet fever, and two of them died. What small savings he had accumulated were soon swept away, and he was prevented from earning more by not being permitted to enter the workshop on account of the infection.

So far the case was bad enough; but for the misfortunes which had happened no one was to blame. Can the same be said of what follow? A few words from a letter which he sent me will show the reason I have for objecting to any notification to the sanitary authorities, if the result is to be as here described.

"DEAR SIR,—I cannot rest without letting you know how deeply my poor wife and I feel the terrible position in which we are placed. The workmen under the inspector have torn our house to pieces, our feather beds are destroyed at my expense. I shall be obliged to ask my landlord to let my rent stand over, and through him, he being a guardian, petition for my taxes to be excused."

It should be stated that the notification in this case was made to the sanitary inspector by the man himself, and what is the result? His letter tells us.

The above is by no means an isolated case. Who, in the face of these facts, can blame the poor man who, having undergone the dangers of the disease in his own family, refuses to have his house and furniture pulled to pieces, and his burdens increased by the additional expense of such destruction? I cannot; and until I am assured that these matters are altered, I, for one, will never either notify a case of infectious disease to the sanitary authorities, nor will I advise any patient to do so without giving him full warning of the pains and penalties attached to such notification.

The ignorance of people is blamed for the spread of preventable diseases; but, in truth, it is such destructive legislation as the above which does further harm.

It must not be supposed that I am opposed to the principle of notification or registration of infectious cases; but I do strongly object to the method the State adopts in dealing with such cases.

I remain, Sir, yours truly,

Holloway, March 23rd, 1878. W. HENRY KESTEVEN, M.R.C.S.

Caplostro.—The questions have been misaid.—1. Only private.—2. Yes. 3. No.—4. We presume so; but would not counsel our correspondent to act without legal advice, the question being really legal, and the answer doubtful.

F. V. W.—If extra aid is needed, there will probably be a public notice indicating the course to be pursued by candidates.

HEREDITARY TRANSMISSION.

To the Editor of THE LANCET.

SIR,—I beg to send you some particulars of a case now under my care, which has a direct bearing on your annotation in to-day's LANCET respecting hereditary transmission.

A patient of mine, at present residing in this neighbourhood, has six fingers on each hand, and six toes on each foot. The little, ring, and two middle fingers are natural; the index-finger has one long first phalanx and a last phalanx, and perfectly formed nail attached to and anchylosed with it, the middle phalanx being wanting; the thumb is normal, but a little smaller than the others. The foot has a very peculiar appearance from the shape and position of the innermost of the two great toes, resembling more the prehensile foot of the ape than that of a human being. This man's father, he informs me, had also six fingers on each hand, and six toes on each foot. One of his sisters had six toes on each foot, but the usual number of fingers; and two of his children, his eldest, a boy, and his eighth, a daughter, were each born with six fingers and six toes. The rest of his family had no abnormal development.

I am, Sir, your obedient servant,

Torquay, March 16th, 1878. SAML. GAMBLE.

TOO MANY COOKS.

THE Editor of the *Indian Medical Gazette* was lately favoured by a native practitioner of Calcutta, a "L.M.S.," with the history of a case of "Burdwan fever, assuming features which appertain to typhoid." The patient was an opulent Hindoo, a pleader in the High Court. Professional business took him to Burdwan in September last. He remained there twenty-five days, returning to Calcutta in the first week in October. On the 7th of that month decided symptoms of fever set in, and the next day he called in "a plucked student of the Medical College," who treated him for ague with a diaphoretic mixture. On the 10th he became delirious, and the "L.M.S." was summoned, and instructed to call in a leading European practitioner. Calomel and James's powder were given, after which there was a reduction in the temperature, and quinine was then administered. On the 12th, the delirium becoming more violent, another leading European practitioner was called in, and the dose of quinine was increased, digitalis being given in the intervals, and strong liquid nutrients prescribed. On the same day the services of a native *kobiraj* were obtained, who administered mercury, arsenic, and musk, together with a milk diet. During the night the condition of the patient became much aggravated. On the 13th a homœopath was sent for. The poor pleader was now evidently sinking. The next day the "L.M.S." was again called in, and he ordered ether, ammonia, and brandy, but to no avail, as the patient died early on the morning of the 15th. The duration of the illness was seven days, and within that time six practitioners were summoned to treat the unfortunate man. Our contemporary, after expressing an opinion that the case was one of severe malarious fever, with a "typhous" termination, states that the narrative is only an example of a system of treatment widely prevalent in native society.

M.D.—There may be a small amount of castor oil in the composition. The success of a prosecution would be doubtful.

"CORONERS AND CAUSES OF DEATH."

To the Editor of THE LANCET.

SIR,—Your annotation under the above heading, in THE LANCET of March 2nd, is founded on a complete misunderstanding of the nature and duties of the office of coroner. Whatever you and your medical friends *might* make of the office if permitted—which I devoutly deprecate—to upset the law and practice of centuries, you must at present, however unwillingly, take these and not any new-fangled theories as your only guide.

In reply to your groundless attack upon me, permit me to say—

1. Coroners do not "lose sight of the provisions of the Registration Act of 1874."

2. In all cases whatever—I challenge you to produce one to the contrary—the jury *do* "inquire of the particulars to be registered," and the coroner does furnish to the registrar complete "information concerning the death," and specifying the finding of the jury.

It is wonderful to find in a paper like THE LANCET so absurd a statement as that the reporter's note of "accidental death" states the full finding of the jury on the information given to the registrar. The report of a violent death, of which full particulars are given, of course concludes with the jury's opinion that the death *as described* was "accidental."

This obvious explanation plainly does not apply to those deaths which the jury, after inquiring fully as prescribed by law touching a sudden non-violent death, find to have resulted from natural causes. As to these your error arises from your not knowing what the function of the coroner and his jury really is. Their duty is to inquire, not into the medical cause of death, for medical or statistical purposes, but solely whether deceased came to his death by the act of God or of man—that is, whether it was purely natural; or, if not, "if anyone is culpable." In the 78 cases you refer to, the coroner and jury were rightly justified in finding that the cause of death was either purely natural, or, being originally such, was aggravated, and death produced or accelerated, by neglect. If the neglect was such as to involve criminal proceedings, the strict evidence properly required in the Coroner's Court was provided by a post-mortem examination into the medical cause of death. But in cases of natural disease, or disease aggravated by neglect, not legally criminal, the jury, having satisfied themselves by sworn evidence that the original cause is natural disease, are not called upon to require a post-mortem examination; nor is the coroner, merely to gratify medical curiosity, or claim for fees, justified in ordering a dissection. For by no other means could the "scientific information of the cause of death," which you (without the least warrant of authority or sound practice) suppose to be a main object of every inquest, be obtained and recorded. The law is, and has been for centuries clear, that in every case of sudden death where the cause is unknown, the coroner has to summon his jury to inquire if any culpable (*sic*). No external inspection by a surgeon can clear up the cause of death. Still less can the ignorant statements of the friends be taken as of any value, though you strangely consider the entering the cause of death without a medical certificate, as "fever," "a gain to the death-register"!—the facts here being that, though the informant called it fever, because the patient seemed feverish, the case seemed rather one of chest disease.

I have never hesitated, nor need any coroner who fearlessly does his duty hesitate, to order a post-mortem examination whenever needed. But to require it to be made in every case where not needful for legal proof of the cause of death, would cause a great public scandal, and is wholly needless for the protection of human life. Thus to outrage the feelings of thousands of families for the sake of "a complete death-register," or of some mere statistical vagary, cannot be justified, nor will ever be permitted. The recklessness with which imputations against coroners are made is shown by your statement that in the case of the 22nd May the "illogical verdict of natural causes aggravated by want of medical aid" was returned. I find on referring to the papers that the phrase is natural *disease*, not causes, though, to use your own courteous expression, "it would be interesting to know by what process of reasoning" it is proved to be illogical to say that death may result from two causes concurring—viz., the one natural, and the other non-natural: i. e., neglect.

In conclusion, I must protest against constant criticisms in your and other medical papers, the answer to which you know from my pamphlet lately sent you, and other communications, but to which you have not thought fit to insert my replies.

Give me a clear stage and no favour, and I will undertake to demonstrate, in spite of all you and your medical friends can say, that the office of coroner, when not marred by magisterial, medical, or registrational nostrums, is perfectly adequate for the protection of human life, and that the so-called improvements in it do not deserve legislative consideration.

I am, Sir, yours faithfully,
EDWARD HERFORD,
March, 1878. Coroner, Manchester.

*** In our annotation referred to by Mr. Herford, we complained that he and so many other coroners ignore the provisions of the 16th section of the Births and Deaths Registration Act of 1874, which enacts that the jury shall inquire, and that the coroner shall certify, "*the cause of death*" in all cases in which inquests are held. We pointed out that during the three months ending June last, in no less than 78 of the 206 inquests registered within the city of Manchester, Mr. Herford or his deputy, instead of certifying the "cause of death" (in accordance with the Act of Parliament before mentioned), merely inserted in their certificates, which they are bound to furnish to the registrar, the words "natural causes" or "natural disease," in some cases adding the words "accelerated by want of medical aid." The Act requires a coroner to certify the cause of death. The question is whether the words "natural causes" afford an answer to the inquiry, "What is the cause of death?" It became necessary, in the interest of science and public health, to insist by Act of Parliament that juries should inquire, and coroners should certify, "*causes of death*" in inquest cases; and the same Act of Parliament which made it compulsory upon registered medical practitioners to furnish medical certificates of the causes of the deaths of their patients, very reasonably imposed upon coroners the duty of certifying the cause of death in inquest cases. Our complaint is that, while medical practitioners fulfil their duties under the Act, too many coroners evade theirs in this respect. The effect of this omission in Manchester is especially detrimental to the mortality statistics of the city, as Mr. Herford is a zealous coroner, and within the city during last year no less than 847 inquest cases were registered, equal to nearly nine per cent. of the total deaths. Can Mr. Herford be aware, moreover, that in many parts of the country coroners hold, even in large towns, less than three per cent. of inquests, that in large numbers of violent and sudden deaths the coroners decline to hold inquests, and that the deaths are registered and the bodies buried without any inquiry? Surely this irresponsible discretion of coroners in the matter of holding inquests, and this want of uniformity in the exercise of that discretion, calls for legislative consideration and regulation.—ED. L.

Secretary, Norwich Medico-Chirurgical Society.—The report has been received, and will be duly published. It has been deferred with many others in consequence of much pressure on our space.

Sigma should consult a medical man.

"SCARLET FEVER IN LEE."

To the Editor of THE LANCET.

SIR,—Psychologically it is a peculiarly interesting fact that, without any particular rhyme or reason, the mind of one will oftentimes lead the minds of many, leading, as with a silken cord, the mass, the multitude. One cries "wolf," and then, without any assignable cause, all cry "wolf" together. The latest wolf cry in this neighbourhood has been, "We have a severe epidemic of scarlet fever." We all remember that celebrated cartoon in *Punch*, where the little boy writes on the wall, "No Popery," and then runs away; so someone has written up "scarlet fever," and then hidden himself away, at the same time unfortunately putting the neighbourhood to much needless worry, anxiety, and alarm.

On my own and partner's behalf, I can conscientiously assert that at no period during the last two years has Lee been so free from scarlet fever as it is at present. For a considerable time extending up to some six weeks ago isolated cases of an unusually mild nature continually appeared; since then, to all intents and purposes, the fever has nearly disappeared. Those good people who are now convalescent from their scarlet-fever scare are beginning to ask, Where is the fever? And well they may.

I remain, Sir, yours truly,
Lee, March 19th, 1878. CHAS. CHITTENDEN.

SHOE FOR TALIPES.

To the Editor of THE LANCET.

SIR,—Mr. W. Adams will find in the *Medical Times and Gazette* of April 30th, 1859, the diagram of a talipes shoe, with full description, sole-plate divided into two portions, and if not exactly of the same structural detail, at least precisely fulfilling the same indications as that exhibited by him to the Medical Society of London. Mine was manufactured by Weiss for the child of a Scotch physician, and its arc motions were constructed in the same simple way as those of my truss, which can be seen at Weiss's. Verily there is little new under the sun.

Your obedient servant,
Cheltenham, March 25th, 1878. C. EDWARDS, A.B., M.D., &c.

CRIMINAL IRRESPONSIBILITY.

THE medical superintendent of the Joint Lunatic Asylum, Abergavenny, Dr. M'Cullough, in his twentieth Annual Report, now issued, reiterates a caution which he suggested in 1873 with regard to inflicting punishment on the insane. He points out that stealing is a common symptom of a peculiar form of organic disease of the brain, "which always terminates in death." During the past year two patients were admitted into the asylum, labouring under paralysis of the insane, who had been convicted of larceny. They were in a debilitated state, as a result of the prison diet and discipline to which they had been subjected. Inquiry into the history of these cases left no doubt that the disease existed at the time the articles were stolen. "It is well," writes Dr. M'Cullough, "for magistrates to bear in mind that such cases occur. In general it will be found that a change of character and habits has preceded the stealing, and that the stealing is usually irrational, and without any regard to the probability of discovery."

Mr. Fletcher.—The lymph supplied by the National Vaccine Establishment is understood to be derived from children.

CHRYSOPHANIC ACID IN THE TREATMENT OF PSORIASIS.

To the Editor of THE LANCET.

SIR,—Since chrysophanic acid was introduced to the profession, I have tried it in about sixty cases of psoriasis. In not one am I certain that it has done good; while I know it has caused harm in a few cases, marked inconvenience in many, and more or less annoyance in most. In the first two or three cases I thought there was a decided improvement; but, looking more closely, found this was due to the fact that the skin around the diseased patches was dyed brown, and hence by comparison the patches themselves looked pale. The strength in six such cases was one scruple of acid to the ounce. In other cases the strength was increased to one drachm of acid to the ounce. One young girl, about eighteen (who used the ointment somewhat freely) had, not a state of "false erythema" produced, but the whole leg, from the middle of the thigh to the ankle, was made raw by the removal of the outer skin; at the same time one eye was completely "bunged up," as she had applied the ointment to a small spot on the lower lid. Two other patients, who were middle-aged, met with similar but milder results. These are, of course, extreme cases; but the rest of the sixty contain amongst them not one which has really been benefited.

Lastly, I must draw attention to the effect of this drug on the patients' linen. One patient said to me, "Your last ointment (tar) was bad enough; but this makes both me and my clothes look as if I had jaundice, and washing makes it worse." On the whole, when we consider the inconvenience, doubt, and expense of this so-called "talisman" for psoriasis, although it may still be experimented with, and may be found of use in some other diseases, we cannot, I think, but come to the conclusion that in the surgery of the general practitioner it is a useless incumbrance.

I am, Sir, yours truly,
H. STANLEY GALE,
Physician to the Manchester Skin Hospital.

Manchester, March 18th, 1878.

To the Editor of THE LANCET.

SIR,—Although Dr. Sangster's two cases of psoriasis treated by chrysophanic acid are sufficiently gratifying in their results, they only show that in skilled hands, and in properly selected cases, the drug has, like several other remedies, its share of success. This no one in the discussion at the Clinical Society disputed; but the experience of nearly all the speakers furnished cases which sounded a warning note that unpleasant effects not unfrequently occurred, and that great care and discrimination in its employment were required, otherwise disappointment and annoyance to both the patient and practitioner might ensue. On these grounds the remedy was of comparatively limited application.

Yours obediently,
H. RADCLIFFE CROCKER, M.D.,
Assistant Medical Officer for Skin Diseases,
University College Hospital, &c.

Gower-street, March 19th, 1878.

L.R.C.P. Ed. should write to the Clerk of the College, as probably special text-books are advised. But the following works may be referred to:—Physics: Brooke's (Golding Bird's) Natural Philosophy, or Ganot's Physics. Sanitary Engineering: Baldwin Latham's, or Bailey Denton's recent work. Chemistry: Fownes. Meteorology: Buchan. Epidemiology and Endemiology: No special work; most recent works on Medicine. Practical Hygiene and Vital Statistics: Parkes and Wilson (both works). Sanitary Law: The Public Health Acts of England and Scotland.

Mr. Ashby.—The air-meter may be obtained of the maker, Mr. J. H. Steward, Strand.

THE MATERNITY DEPARTMENT OF WESTMINSTER HOSPITAL.

To the Editor of THE LANCET.

SIR,—May I bring under your notice the state into which the Maternity department of Westminster Hospital has been allowed to fall. I have been informed on good authority that there have been only eight cases for the students to attend this session, and that at the present time there are several who are waiting to complete their number of cases. Some of the men are prevented from going up for their examination solely on this account. According to the hospital prospectus, students are informed that the requisite number of cases will be found. The attention of the hospital authorities has been repeatedly called to this state of affairs, but with little or no success.

Trusting by your assistance that the arrangements may be improved,
I am, Sir, yours obediently,
A STUDENT.

March 12th, 1878.

SPONTANEOUS IGNITION AND EXPLOSION.

UNDER the heading of "An Unexplained Explosion," the *Pharmaceutical Journal* describes an explosion that occurred a few weeks since in a candy manufactory in New York, resulting in the loss of twelve lives, and the destruction of the entire building, the cause of which has not yet been ascertained in any of the more commonly recognised conditions that lead to such accidents. It seems that a large quantity of starch was used in the preparation of the moulds, and our contemporary imagines it probable that the atmosphere may thus have become charged with a fine powder, which, igniting, caused all the mischief. It is said that similar explosions occur in flour-mills, and that some time back the roof of a linoleum factory in Staten Island was blown off through the ignition of cork-dust diffused throughout the building.

Mr. Richard Green.—The paper has been received, and will be inserted in due course.

"FIRST CUSTODY OF THE INSANE."

To the Editor of THE LANCET.

SIR,—With reference to your leading article concerning the "First Custody of the Insane," which appeared in your issue for March 16th, it may be convenient to refer to the provision in the 30 and 31 Vict., c. 106, s. 22, which enacts: "When there shall be in any workhouse a poor person suffering from mental disease, or from bodily disease of an infectious or contagious character, and the medical officer of such workhouse shall upon examination report in writing that such person is not in a proper state to leave the workhouse without danger to himself or others, the guardians may direct the master to detain such person therein, or, if the guardians be not sitting, the master of the workhouse may, until the next meeting of the guardians, detain him therein, and such person shall not be discharged from such workhouse until the medical officer shall in writing certify that such discharge may take place. Provided, however,".....The above shows that *not* "every inmate of a workhouse may claim his discharge after twenty-four hours' notice to the master." I quote from the Medical Officer's Manual (Lumley), which ought, I think, to be in the hands of every Poor-law medical officer.

I am, Sir, yours obediently,
R. J. SHEPHERD,
Medical Officer to the Workhouse.

Infirmary, St. Olave's Union, Rotherhithe, March 22nd, 1878.

"DUST AND DIPHTHERIA ON WANDSWORTH-COMMON."

WE are requested to publish the following:—

Board of Works for the Wandsworth District.
The Priory, Battersea, S.W.,
March 13th, 1878.

DEAR SIR,—In reference to your letter, it is quite true that the dust from the western district is carted on to the depôt of the Brighton Railway, Wandsworth-common, for the purpose of being sifted, when all vegetable matter is at once removed by rail. There is an old heap of some years, which is being rapidly taken away. Myself and the inspector are constantly visiting this dust-yard, but never found anything offensive, except on one occasion when the sorted vegetable matters were being burnt; this on representation to Mr. Hudson was at once discontinued, which I reported to the Local Committee on Sept. 15th, 1877.

The correspondent of THE LANCET has been misinformed with respect to the deaths from diphtheria in the houses near this dust-yard. I have carefully gone through every death recorded last year; there is not only *no death* from diphtheria, but not a single death from any cause whatever has been returned.

In the Patriotic Schools three deaths were returned from scrofula and epilepsy—diseases which are not at all connected with emanations from decomposing organic matters.

I am not aware of any complaint having been made from any of the institutions in the neighbourhood of this yard.

I am, dear Sir, yours very truly,
J. OAKMAN,
To A. A. Corsellis, Esq. M.O.H., West Battersea.

*** On receipt of the above, we communicated with the local practitioner who had attended upon and described to our correspondent the cases of diphtheria alluded to in the article in question. The answer received confirms the fact that the information was erroneous in that the cases of diphtheria did not occur "during last year," as stated, but previous to Christmas, 1876. We fail to see, however, that this need in any way alter the general drift of the observations made in the article. The cases of diphtheria were sufficiently near the dust-heap to warrant the suspicion of a possible connexion between the two, whatever the date of their occurrence. On the other hand, the above letter adds another fact to the list of grievances; for it states that there is "an old heap of some years'" standing, whereas complaint was merely made of the dust remaining unmoved for a few months. As for the absence of "anything offensive," we must refer to the testimony and complaints addressed to the local papers by persons living in the immediate neighbourhood of the dust-heap.—ED. L.

RESPIRATORS.

To the Editor of THE LANCET.

SIR,—The able letter of Dr. Hayward on the above subject, which appears in your last issue, reminds me of the respiratory shield that for some time passed I have occasionallly recommended to patients, the majority of whom speak most favourably of it. This shield is worn *before*, but not quite close to, the lips, and its inferior portion rests on the fossa between the lower lip and the chin. If the human hand be placed before the lips (when carriage driving or during exposure to the influence of a "fresh" breeze), a fair idea of its advantages may be thus obtained.

Yours faithfully,
Bury-place, W.C., March 24th, 1878. R. LOCKE JOHNSON.

Mr. G. Stennett Redmond.—Our correspondent will get the answer to his first question from the surveyor of taxes in his neighbourhood. His other questions would require answers which involve matters of opinion to be found in books on the special subjects mentioned. As regards the subject of syphilis, no one book will give the information required, the pathology of this disease having been worked out by so many pathologists according to the various tissues and structures affected by it. Mr. Hutchinson's article on Constitutional Syphilis in Reynolds's System of Medicine, and Diday's work on Infantile Syphilis, translated by the Sydenham Society, should be read.

BICHLORIDE OF MERCURY.

To the Editor of THE LANCET.

SIR,—In *The Times* of March 26th is reported a trial at Exeter of a quack doctor for the manslaughter of a woman by means of an external application of bichloride of mercury, the Judge directing an acquittal on legal grounds. The case occurred at Bampton, and it is to be hoped that the medical witness for the prosecution will furnish the profession with some particulars of the case, as every instance that serves to demonstrate the great risk attaching to the use of this drug as an application to external wounds cannot fail to be of value by inculcating caution in resorting to such hazardous practice. Yours &c.,

March, 1878. F.R.C.S.

Enquirer.—We think such an assumption would not be supported by a court of law, which does not invariably recognise the claim of a surgeon on the strength of an engagement to attend, but who has not been summoned.

Justitia.—The statement that a practitioner, possessing the qualifications M.D. Lond. and F.R.C.S. Eng., gives advice and medicine for *one shilling* is astounding.

M.R.C.S. Eng.—Foreign degrees are not registerable under the Medical Act in this country.

THE BARBER FUND.

To the Editor of THE LANCET.

SIR,—I beg to acknowledge the following further contributions to this Fund:—

Dr. Tuckwell, Oxford	£1	1	0
Dr. Smith, Ecclefechan, N. Britain	1	1	0
Dr. Fletcher, Earl Soham	1	1	0
G. R. Pitcairn, Esq., Littleborough	1	0	0
E. G. Rundle, Esq., Sharrow, near Sheffield	5	0	0
A Friend	5	0	0

Your obedient servant,

Cricklewell, March 20th, 1878. PHILIP R. HILL.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Pavy, London; Dr. Liveing; Mr. A. Haviland; Mr. Greenwood, London; Mr. Lucas, London; Mr. Reeves, London; Mr. Snodgrass, Paisley; Mr. Nicholson, Sunderland; Mr. Ashby, Grantham; Dr. Shirley, Halifax; Dr. Dickson; Dr. Stuart, Windermere; Mr. Prideaux, York; Dr. Carpenter, Stockwell; Mr. Illingworth, Peterborough; Messrs. Hogarth, London; Rev. Canon M. A. Ellison; Mr. Amphlett, London; Mr. Resteven, Holloway; Dr. McConnell, Calcutta; Dr. Wyld, London; Dr. Sawyer, Birmingham; Mr. Watson, Bournemouth; Mr. Wyckoff, New York; Dr. Watson, London; Dr. D. Duckworth, London; Dr. Beckingsale, London; Dr. Lawrence Hamilton, London; Mr. Skinner, Winchelsea; Dr. J. Williams, London; Mr. Johnson, London; Dr. Edwards, Cheltenham; Dr. Wylie, Shipton; Mr. Cadell, Edinburgh; Mr. C. Williams, Norwich; Mr. Baker; Mr. Smeaton; Mr. Cole; Mr. Parker, Birmingham; Dr. Greene, Beverley; Dr. Custer; Dr. Smith, Kilburn; Dr. McClelland, Cannes; Mr. Buckoll, Nottingham; Mr. Duprat; Mr. Gornall; Mr. Seaton; Mr. Kitching; Mr. Harvey; Mr. Bain; Dr. Tatham, Salford; Mr. Hill; Dr. Davies, Ebbw Vale; Mr. Bennison; Dr. Patterson, Glasgow; Dr. Fletcher, Manchester; Dr. Reed, Arnold; Mr. Harris; Mr. Marriott; Mr. Clark, Pennsylvania; Dr. Jordan, Birmingham; Mr. Wallace; Mr. Weldon, Perth; Mr. Jennings, Catford-bridge; Mr. Greene, Melford; Mr. May, Blue Town; Mr. Jackson, Bradford: Mr. Craig; Dr. Dowdeswell, Wimbledon; Mr. Jupp; Dr. Shepherd; Dr. Dunlop; Dr. Callaghan; Mr. Brooks, Watford; Mr. Hall; Mr. Herford, Manchester; Dr. Jones, Cork; Dr. Sanderson, Edinburgh; Mr. Williams, Norwich; Dr. Tuckwell, Oxford; A Member of the Profession; A Roller-breaker; F. O. D.; Cagliostro; G. L. H. R.; F.R.C.S.; Sigma; D. H.; Oxon.; The Registrar-General of Births &c.; The Registrar-General of Edinburgh; A Medical Superintendent; Student; M.R.C.S.E.; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Elliott; Dr. Edwards, Cardiff; Mr. Johnson; Mr. Terry; Dr. Wright, Northampton; Mr. Douglas; Mr. Baker; Dr. Bridgman, Burton-on-Trent; Dr. Rutherford, Shipley; Mr. Reynolds; Mr. Ford; Mr. Newington; Mr. Owen; Mr. Roe; Dr. Howard, Oldham; Mr. Farmer; Matron; House-Surgeon; Brooke; M.D.; Medicus, Wellingborough; Chemist; W. F., Dublin; L. D.; W. G.; S. W., Dover; D. H.; J. Q.; Beta; P., Kendal; H. H.; Zeta; Anthrax; Rustic; Horder; X.; A. B. C., Sheffield; E. C., Commercial-road; Paratus; Surgeon, Hull; X. M.

British Architect, Essex Weekly News, Eastbourne Courier, Exeter and Plymouth Gazette, Boot and Shoemaker, Pontefract Telegraph, Western Morning News, Newcastle Daily Journal, Lytham and Kirkham Times, Isle of Wight Observer, Western Daily Mercury, Hereford Journal, Barnsley Chronicle, Evening Citizen, &c., have been received.

Medical Diary for the ensuing Week.

Monday, April 1.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—2 P.M. General Monthly Meeting.
MEDICAL SOCIETY OF LONDON.—8½ P.M. Mr. Squire, "On a Case of severe general Eczema treated by Phosphorus alone" (living specimen).—Mr. Teevan, "On the Selection of an Operation for Stone in the Bladder."

Tuesday, April 2.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Professor Garrod, "On the Protoplasmic Theory of Life, and its bearing on Physiology."
PATHOLOGICAL SOCIETY OF LONDON.—8½ P.M. Adjourned Meeting to consider Disease of the Lymphatic System. Specimens will be exhibited by Dr. R. Jones, Dr. Whipham, Dr. Goodhart, Mr. Nunn, Dr. Hoggan, Dr. Coupland, and Mr. Porter, and will be on view at 8 P.M.

Wednesday, April 3.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Croonian Lecture: Dr. Pavy, "On Points connected with Diabetes."
OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens: A Fœtus whose Head was Ruptured by means of the Forceps, by Dr. Cory; Cancerous Polypi removed during Pregnancy, with Microscopical Sections, by Dr. Galabin.—Papers: Mr. Lawson Tait, "On two Cases of Repair of the Female Bladder and Urethra"; Dr. Hickinbotham and Dr. Skinner, "On Cases of Rupture of the Uterus."
ROYAL MICROSCOPICAL SOCIETY.—8 P.M. Mr. J. W. Stephenson, "On a new form of Object-glass."

Thursday, April 4.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
ROYAL INSTITUTION.—3 P.M. Professor Dewar, "On the Chemistry of the Organic World."
HARVEIAN SOCIETY.—8 P.M. Mr. Henry Morris's Report on Diseased Kidney.—Dr. Griffith, "On a Case of Congenital Displacement of Heart" (living specimen).—Mr. Teevan, "On the Importance and Means of effecting an early Diagnosis of Stone in the Bladder."

Friday, April 5.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Lumleian Lecture: Dr. Bucknill, "On Insanity in its Legal Relations."
ROYAL INSTITUTION.—8 P.M. Weekly Meeting.—9 P.M. Mr. G. J. Romanes, "On the Philosophy of the Beautiful."

Saturday, April 6.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Professor Pauer, "On the Calvcinistes of England, Italy, France, and Germany, and their Works" (with Musical Illustrations on the Harpischord and Pianoforte).

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